# FACT SHEET FOR NPDES PERMIT NO. WA0000281

## Noveon Kalama, Inc.

Issuance Date: July 25, 2002

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## INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the State of Washington on the basis of Chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Comments and the resultant changes to the permit will be summarized in Appendix D--Response to Comments.

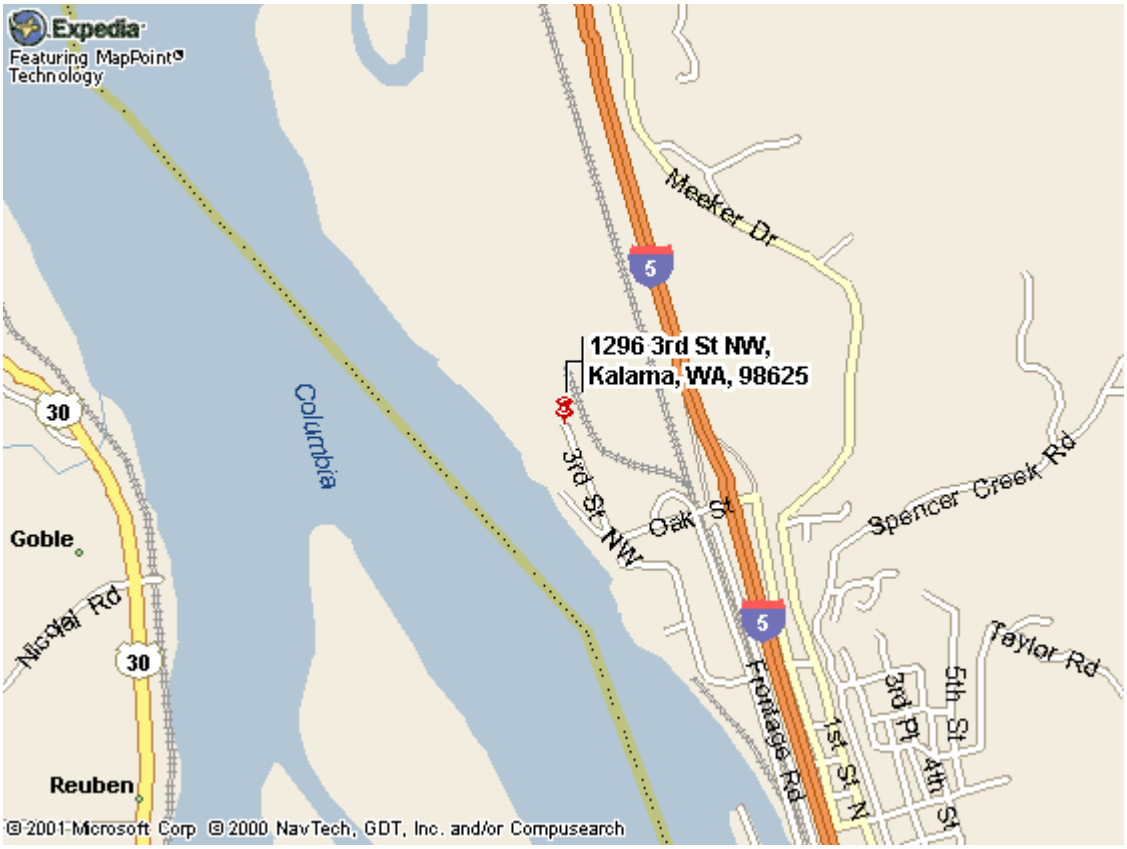
| GENERAL INFORMATION | |
|---|---|
| Applicant | Gregory S. Conn |
| Facility Name and Address | Noveon Kalama, Inc.<br>1296 Third Street Northwest<br>Kalama, WA 98625 |
| Type of Facility and SIC Codes | Industrial Organic Chemicals, SIC 2869<br>Cyclic Organic Crudes and Intermediates and Organic Dyes and Pigments, SIC 2865 |
| Discharge Location | Waterbody name: _ Columbia River at Mile 74<br>Latitude: 46° 01' 18" N<br>Longitude: 122° 51' 35" W |

## BACKGROUND INFORMATION

### *DESCRIPTION OF THE FACILITY*

LOCATION ON THE MAP

**Figure 1 Noveon Kalama location on the map**




HISTORY

Noveon Kalama, Inc. (Noveon) operates an organic chemical manufacturing plant located adjacent to the Columbia River at Kalama, Washington. Constructed in the early 1960s, the plant originally produced phenol and other materials for the plywood industry. The plant has expanded to produce additional chemicals, including nonyl phenol, benzaldehyde, benzyl alcohol, sodium benzoate, potassium benzoate, benzylamine, dibenzylamine, fragrance aldehydes and plasticizers. The food, flavor/fragrance and pharmaceutical markets use most of the chemical compounds that Noveon presently produces.

Noveon has been classified as a major NPDES facility by the U.S. EPA .

INDUSTRIAL PROCESS

Noveon produces approximately 650 tons daily of the following chemicals:

1. benzoic acid
2. phenol

3. sodium/potassium benzoate
4. benzaldehyde
5. plasticizers
6. benzyl alcohol
7. benzene
8. nonyl phenol
9. amyl & hexyl & cinnamic aldehyde
10. benzyl benzoate
11. benzyl/dibenzyl amine
12. benzyl acetate

Noveon operates continuously.

The primary activity which is the source of discharge for which application has been made is the manufacture of a variety of organic chemicals from the base chemical, toluene. This discharge consists of process wastewater (including associated storm water) and cooling water from various manufacturing processes. A secondary activity which contributes significantly to the discharge is the remediation of ground water contaminated from past practices at the site. This contaminated ground water, which is similar in character to the process water, will receive aerobic biological treatment with the process water prior to discharge. The "non-contact" cooling water, which is taken from and returned to the river, receives no treatment prior to discharge. The treated wastewater and the cooling water are combined and discharged from one outfall.

DISCHARGE OUTFALL

Noveon discharges to the Columbia River continuously through a submerged diffuser.

*PERMIT STATUS*

The previous permit for this facility was issued on March 1, 1996. The permit was modified on June 20, 1996 and October 12, 1998. The permit expired on April 1, 2001 but it was extended on March 14, 2001. The extension expires no later than June 30, 2003. The previous permit placed effluent limitations on the following pollutants in the process wastewater discharge:

**Table** 1: **Previous Permit Effluent Limits**

| Parameter | Maximum for Any One Day | Maximum for Monthly Average | Minimum Sample Frequency | Sample Type |
|---|---|---|---|---|
| 1. Flow Rate (MGD) | (report only) | (report only) | Continuous | Meter |
| 2. pH | 6.0-9.0 | 6.0-9.0 | 4/mo.* | Grab |
| 3. $BOD_5$ | 206 | 78 | 4/mo.* | 24 HC |
| 4. TSS | 293 | 90 | 4/mo.* | 24 HC |
| 5. Copper | 1.12 | 0.49 | 4/mo.* | 24 HC |
| 6. Nickel | 0.70 | 0.32 | 4/mo.* | 24 HC |
| 7. Zinc | 0.87 | 0.36 | 4/mo.* | 24 HC |
| 8. Phenol | 0.106 | 0.061 | 4/mo.* | Grab |
| 9. Toluene | 0.327 | 0.106 | 1/qtr. | Grab (VOA) |
| 10. Benzene | 0.556 | 0.151 | 1/qtr. | Grab (VOA) |
| 11. Ethylbenzene | 0.441 | 0.131 | 1/qtr. | Grab (VOA) |
| 12. Bis(2-ethylhexyl) phthalate | 1.140 | 0.421 | 1/qtr. | 24 HC |
| 13. Fluorene | 0.241 | 0.090 | 1/qtr. | 24 HC |

**Table** 1: **Previous Permit Effluent Limits**

| Parameter | Maximum for Any One Day | Maximum for Monthly Average | Minimum Sample Frequency | Sample Type |
|---|---|---|---|---|
| 14. Naphthalene | 0.241 | 0.090 | 1/qtr. | 24 HC |
| 15. Acenaphthene | 0.241 | 0.090 | 1/yr. | 24 HC |
| 16. Acrylonitrile | 0.987 | 0.392 | 1/yr. | Grab (VOA) |
| 17. Carbon Tetrachloride | 0.155 | 0.073 | 1/yr. | Grab (VOA) |
| 18. Chlorobenzene | 0.114 | 0.061 | 1/yr. | Grab (VOA) |
| 19. 1,2,4-Trichlorobenzene | 0.571 | 0.277 | 1/yr. | 24 HC |
| 20. Hexachlorobenzene | 0.114 | 0.061 | 1/yr. | 24 HC |
| 21. 1,2-Dichloroethane | 0.861 | 0.277 | 1/yr. | Grab (VOA) |
| 22. 1,1,1-Trichloroethane | 0.220 | 0.086 | 1/yr. | Grab (VOA) |
| 23. Hexachloroethane | 0.220 | 0.086 | 1/yr. | 24 HC |
| 24. 1,1-Dichloroethane | 0.241 | 0.090 | 1/yr. | Grab (VOA) |
| 25. 1,1,2-Trichloroethane | 0.220 | 0.086 | 1/yr. | Grab (VOA) |
| 26. Chloroethane | 1.093 | 0.424 | 1/yr. | Grab (VOA) |
| 27. Chloroform | 0.188 | 0.086 | 1/yr. | Grab (VOA) |
| 28. 2-Chlorophenol | 0.400 | 0.126 | 1/yr. | 24 HC |
| 29. 1,2-Dichlorobenzene | 0.665 | 0.314 | 1/yr. | 24 HC |
| 30. 1,3-Dichlorobenzene | 0.180 | 0.126 | 1/yr. | 24 HC |
| 31. 1,4-Dichlorobenzene | 0.114 | 0.061 | 1/yr. | 24 HC |
| 32. 1,1-Dichloroethylene | 0.102 | 0.065 | 1/yr. | Grab (VOA) |
| 33. 1,2-trans-Dichloroethylene | 0.220 | 0.086 | 1/yr. | Grab (VOA) |
| 34. 2,4-Dichlorophenol | 0.457 | 0.159 | 1/yr. | 24 HC |
| 35. 1,2-Dichloropropane | 0.938 | 0.624 | 1/yr. | Grab (VOA) |
| 36. 1,3-Dichloropropylene | 0.180 | 0.118 | 1/yr. | Grab (VOA) |
| 37. 2,4-Dimethylphenol | 0.147 | 0.073 | 1/yr. | 24 HC |
| 38. 2,4-Dinitrotoluene | 1.163 | 0.461 | 1/yr. | 24 HC |
| 39. 2,6-Dinitrotoluene | 2.615 | 1.040 | 1/yr. | 24 HC |
| 40. Fluoranthene | 0.277 | 0.102 | 1/yr. | 24 HC |
| 41. Methylene Chloride | 0.363 | 0.163 | 1/yr. | Grab (VOA) |
| 42. Methyl Chloride | 0.775 | 0.351 | 1/yr. | Grab (VOA) |
| 43. Hexachlorobutadiene | 0.200 | 0.082 | 1/yr. | 24 HC |
| 44. Nitrobenzene | 0.277 | 0.110 | 1/yr. | 24 HC |
| 45. 2-Nitrophenol | 0.282 | 0.167 | 1/yr. | 24 HC |
| 46. 4-Nitrophenol | 0.506 | 0.294 | 1/yr. | 24 HC |
| 47. 2,4-Dinitrophenol | 0.502 | 0.290 | 1/yr. | 24 HC |
| 48. 4,6-Dinitro-o-cresol | 1.130 | 0.318 | 1/yr. | 24 HC |
| 49. Di-n-butyl phthalate | 0.233 | 0.110 | 1/yr. | 24 HC |
| 50. Diethyl phthalate | 0.828 | 0.330 | 1/yr. | 24 HC |
| 51. Dimethyl phthalate | 0.192 | 0.078 | 1/yr. | 24 HC |
| 52. Benzo(a)anthracene | 0.241 | 0.090 | 1/yr. | 24 HC |
| 53. Benzo(a)pyrene | 0.249 | 0.094 | 1/yr. | 24 HC |
| 54. 3,4-Benzofluoranthene | 0.249 | 0.094 | 1/yr. | 24 HC |
| 55. Benzo(k)fluoranthene | 0.241 | 0.090 | 1/yr. | 24 HC |
| 56. Chrysene | 0.241 | 0.090 | 1/yr. | 24 HC |
| 57. Acenaphthylene | 0.241 | 0.090 | 1/yr. | 24 HC |

**Table** 1: **Previous Permit Effluent Limits**

| Parameter | Maximum for Any One Day | Maximum for Monthly Average | Minimum Sample Frequency | Sample Type |
|---|---|---|---|---|
| 58. Anthracene | 0.241 | 0.090 | 1/yr. | 24 HC |
| 59. Phenanthrene | 0.241 | 0.090 | 1/yr. | 24 HC |
| 60. Pyrene | 0.273 | 0.102 | 1/yr. | 24 HC |
| 61. Tetrachloroethylene | 0.229 | 0.090 | 1/yr. | Grab (VOA) |
| 62. Trichloroethylene | 0.220 | 0.086 | 1/yr. | Grab (VOA) |
| 63. Vinyl Chloride | 1.093 | 0.424 | 1/yr. | Grab (VOA) |
| *at minimum 7-day intervals<br>Grab = instantaneous sample<br>24 HC = composite sample of at least 8 time or flow-proportional aliquots over a 24-hour period.<br>VOA = Volatile Organic Analysis; one grab sample shall be collected and analyzed in accordance with VOA sampling procedures. | | | | |

Ecology received an application package from Noveon for reissuance of the NPDES permit. The application package consisted of the following three parts:

1. National Pollutant Discharge Elimination System Permit Application received on October 5, 2000
2. Letter regarding treatment plant flow clarification received on November 8, 2000
3. Item V of the EPA Form 2C for Outfall 002 received on December 19, 2000

Submittal of the application package was acknowledged in an email sent to Noveon on December 29, 2000 and accepted in a letter sent on March 14, 2001.

Noveon requested the following items be included in the modified NPDES permit:

1. Increase in effluent limits as a result of production increases
2. 5,000 gallons per day of backwash water discharge from the intake water operation
3. Recognition that the NPDES permit is a permit-by-rule under WAC 173-303-802(5)
4. Discharge of uncontaminated stormwater from Outfall 004
5. Sampling frequency change

INCREASE IN EFFLUENT LIMITS AS A RESULT OF PRODUCTION INCREASES

Noveon has increased its production by 37 percent since the previous permit application. Further, on January 15, 1999, Noveon submitted an amendment to the engineering report that was approved by Ecology on February 5, 1999. The amendment increased design capacity of the wastewater treatment plant from 340 gallons per minute (gpm) to 400 gpm for flow and from 4,550 pounds per day to 5,006 pounds per day for 5-day biochemical oxygen demand ($BOD_5$). The Department considers production increase and amended design capacity of the wastewater treatment plant while setting new permit limits.

BACKWASH WATER DISCHARGE

Ecology does not require a permit for intake water backwash discharges at this time.

PERMIT-BY-RULE

Ecology and Noveon are discussing whether or not Noveon is eligible for recognition that the NPDES permit is a permit by rule under WAC 173-303-802(5). One outcome of the discussion may be that Noveon will need to pursue a RCRA permit for the modu-tanks.

DISCHARGE OF UNCONTAMINATED STORMWATER FROM OUTFALL 004

Ecology concludes that the stormwater baseline general permit the facility has for stormwater discharges associated with industrial activities is sufficient for the Outfall 004 and the permit won't be combined with the individual NPDES permit.

SAMPLING FREQUENCY CHANGE

The Department is proposing to modify the monitoring frequency as described in the section of this fact sheet titled "MONITORING REQUIREMENTS."

*SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT*

The facility last received an inspection on November 8, 2000.

During the history of the previous permit, the Permittee has had documented instances of non-compliance based on Discharge Monitoring Reports (DMRs) submitted to the Department and inspections conducted by the Department. Table 2 summarizes the Permittee's noncompliance with the permit requirements:

**Table 2: Summary of noncompliance with the permit**

| Outfall | PARAMETER | Type | Units | Value | Daily Maximum Limit | Date |
|---|---|---|---|---|---|---|
| 001 | Temperature , Water | Daily maximum | Degree Centigrade | 41.5 | 40.7 | 1-Jul-00 |
| Spills at the facility are listed at Appendix C, Table 13: Spills. | | | | | | |

*WASTEWATER CHARACTERIZATION*

The proposed wastewater discharge is characterized for the following regulated parameters:

**Table 3: Outfall 001 Wastewater Characterization Non-contact Cooling Water**

| Parameter | Units | Maximum Daily | Maximum 30-Day | Long Term Average |
|---|---|---|---|---|
| Flow | Millions of gallons per day | 21.5 | 20.5 | 18.5 |
| Temperature (winter) | Degree Centigrade | 27.5 | 25.1 | 24.2 |
| Temperature (summer) | Degree Centigrade | 37.2 | 36 | 34.3 |

**Table 4: Outfall 002 Wastewater Characterization; parameters sampled 4 times a month at minimum 7-day intervals (all units are in pounds per day) process wastewater**

| | Copper | | Nickel | | Zinc | | Phenol | |
|---|---|---|---|---|---|---|---|---|
| | **Average** | **Max.** | **Average** | **Max.** | **Average** | **Max.** | **Average** | **Max.** |
| **Permit Limit** | **0.490** | **1.120** | **0.320** | **0.700** | **0.360** | **0.870** | **0.061** | **0.106** |
| January, 2000 | 0.083 | 0.104 | 0.050 | 0.059 | 0.000 | <0.023 | 0.000 | <0.004 |
| February, 2000 | 0.087 | 0.108 | 0.027 | 0.052 | 0.000 | <0.019 | 0.000 | <0.004 |
| March, 2000 | 0.062 | 0.067 | 0.008 | <0.037 | 0.006 | 0.037 | 0.000 | <0.004 |
| April, 2000 | 0.048 | 0.063 | 0.008 | <0.035 | 0.005 | 0.021 | 0.000 | <0.003 |
| May, 2000 | 0.081 | 0.122 | 0.030 | 0.075 | 0.017 | 0.047 | 0.000 | <0.004 |
| June, 2000 | 0.041 | 0.065 | 0.009 | <0.037 | 0.057 | 0.171 | 0.000 | <0.004 |
| July, 2000 | 0.032 | 0.045 | 0.008 | 0.031 | 0.004 | 0.016 | 0.000 | <0.003 |
| August, 2000 | 0.034 | 0.057 | 0.013 | 0.047 | 0.003 | 0.015 | 0.000 | <0.003 |
| September, 2000 | 0.038 | 0.042 | 0.047 | 0.052 | 0.005 | 0.019 | 0.000 | <0.003 |
| October, 2000 | 0.032 | 0.039 | 0.040 | 0.050 | <0.014 | <0.016 | 0.000 | <0.003 |
| November, 2000 | 0.036 | 0.046 | 0.028 | 0.035 | <0.013 | <0.015 | 0.000 | <0.003 |
| December, 2000 | 0.040 | 0.050 | 0.015 | 0.031 | 0.004 | 0.016 | 0.000 | <0.003 |
| January, 1999 | 0.072 | 0.098 | 0.046 | 0.062 | 0.018 | 0.031 | 0.000 | <0.004 |
| February, 1999 | 0.076 | 0.083 | 0.034 | 0.051 | 0.011 | 0.024 | 0.000 | <0.005 |
| March, 1999 | 0.084 | 0.101 | 0.044 | 0.054 | 0.026 | 0.040 | 0.000 | <0.004 |
| April, 1999 | 0.087 | 0.107 | 0.029 | 0.044 | 0.025 | 0.039 | 0.000 | <0.004 |
| May, 1999 | 0.070 | 0.130 | 0.021 | 0.050 | 0.036 | 0.061 | 0.000 | <0.004 |
| June, 1999 | 0.053 | 0.072 | 0.021 | 0.062 | 0.014 | 0.044 | 0.000 | <0.004 |
| July, 1999 | 0.047 | 0.072 | 0.020 | 0.044 | 0.005 | 0.019 | 0.000 | <0.003 |
| August, 1999 | 0.055 | 0.072 | 0.048 | 0.058 | 0.005 | 0.023 | 0.000 | <0.003 |
| September, 1999 | 0.064 | 0.084 | 0.036 | 0.041 | <0.003 | 0.013 | 0.000 | <0.003 |
| October, 1999 | 0.078 | 0.095 | 0.047 | 0.055 | 0.003 | 0.014 | 0.000 | <0.003 |
| November, 1999 | 0.178 | 0.214 | 0.054 | 0.069 | 0.039 | 0.121 | 0.000 | <0.003 |
| December, 1999 | 0.127 | 0.164 | 0.051 | 0.061 | 0.024 | 0.030 | 0.000 | <0.004 |
| January, 1998 | 0.061 | 0.072 | 0.050 | 0.070 | 0.039 | 0.057 | 0.000 | <0.004 |
| February, 1998 | 0.058 | 0.094 | 0.040 | 0.073 | 0.042 | 0.048 | 0.000 | <0.004 |
| March, 1998 | 0.067 | 0.084 | 0.047 | 0.056 | 0.029 | 0.037 | 0.000 | <0.004 |
| April, 1998 | 0.066 | 0.091 | 0.050 | 0.068 | 0.015 | 0.024 | 0.000 | <0.004 |
| May, 1998 | 0.047 | 0.054 | 0.039 | 0.043 | 0.017 | 0.028 | 0.000 | <0.004 |
| June, 1998 | 0.080 | 0.099 | 0.042 | 0.056 | 0.003 | 0.016 | 0.000 | <0.003 |
| July, 1998 | 0.085 | 0.089 | 0.041 | 0.046 | 0.005 | 0.021 | 0.000 | <0.003 |
| August, 1998 | 0.057 | 0.070 | 0.028 | 0.032 | 0.003 | 0.015 | 0.000 | <0.003 |
| September, 1998 | 0.069 | 0.080 | 0.049 | 0.058 | 0.011 | 0.041 | 0.000 | <0.003 |
| October, 1998 | 0.068 | 0.087 | 0.037 | 0.047 | 0.003 | 0.012 | 0.000 | <0.003 |
| November, 1998 | 0.077 | 0.087 | 0.055 | 0.060 | 0.009 | 0.020 | 0.000 | <0.003 |
| December, 1998 | 0.094 | 0.119 | 0.057 | 0.067 | 0.009 | 0.031 | 0.000 | <0.005 |
| January, 1997 | 0.072 | 0.100 | 0.076 | 0.096 | 0.019 | 0.022 | 0.000 | <0.004 |
| February, 1997 | 0.071 | 0.081 | 0.059 | 0.081 | 0.017 | 0.022 | 0.000 | <0.003 |
| March, 1997 | 0.079 | 0.090 | 0.046 | 0.074 | 0.028 | 0.038 | 0.000 | <0.004 |
| April, 1997 | 0.085 | 0.109 | 0.116 | 0.156 | 0.035 | 0.083 | 0.000 | <0.004 |
| May, 1997 | 0.097 | 0.174 | 0.084 | 0.113 | 0.024 | 0.028 | 0.000 | <0.003 |
| June, 1997 | 0.058 | 0.061 | 0.070 | 0.080 | 0.023 | 0.038 | 0.000 | <0.008 |

**Table 4: Outfall 002 Wastewater Characterization; parameters sampled 4 times a month at minimum 7-day intervals (all units are in pounds per day) process wastewater**

| | Copper | | Nickel | | Zinc | | Phenol | |
|---|---|---|---|---|---|---|---|---|
| | **Average** | **Max.** | **Average** | **Max.** | **Average** | **Max.** | **Average** | **Max.** |
| **Permit Limit** | **0.490** | **1.120** | **0.320** | **0.700** | **0.360** | **0.870** | **0.061** | **0.106** |
| July, 1997 | 0.050 | 0.077 | 0.080 | 0.100 | 0.025 | 0.048 | 0.000 | <0.003 |
| August, 1997 | 0.064 | 0.091 | 0.030 | 0.040 | 0.024 | 0.031 | 0.000 | <0.004 |
| September, 1997 | 0.044 | 0.049 | 0.040 | 0.060 | 0.019 | 0.031 | 0.000 | <0.003 |
| October, 1997 | 0.033 | 0.042 | 0.040 | 0.060 | 0.010 | 0.018 | 0.000 | <0.003 |
| November, 1997 | 0.040 | 0.056 | <0.040 | 0.040 | 0.010 | 0.016 | 0.000 | <0.004 |
| December, 1997 | 0.043 | 0.060 | 0.050 | 0.080 | 0.026 | 0.066 | 0.000 | <0.004 |
| January, 1996 | 0.098 | 0.109 | <0.035 | <0.040 | 0.044 | 0.077 | 0.000 | <0.004 |
| February, 1996 | 0.097 | 0.117 | <0.045 | 0.076 | 0.041 | 0.053 | 0.000 | <0.004 |
| March, 1996 | 0.112 | 0.132 | <0.035 | 0.039 | 0.073 | 0.194 | 0.000 | <0.004 |
| April, 1996 | 0.120 | 0.149 | 0.040 | 0.200 | 0.043 | 0.073 | 0.000 | <0.003 |
| May, 1996 | 0.065 | 0.081 | 0.050 | 0.230 | 0.028 | 0.039 | 0.000 | <0.003 |
| June, 1996 | 0.082 | 0.094 | 0.050 | 0.070 | 0.031 | 0.036 | 0.000 | <0.004 |
| July, 1996 | 0.068 | 0.074 | 0.000 | <0.032 | 0.011 | 0.013 | 0.000 | <0.003 |
| August, 1996 | 0.060 | 0.066 | 0.000 | 0.101 | 0.015 | 0.025 | 0.000 | <0.003 |
| September, 1996 | 0.072 | 0.085 | 0.090 | 0.110 | 0.020 | 0.024 | 0.000 | <0.003 |
| October, 1996 | 0.072 | 0.103 | 0.070 | 0.080 | 0.030 | 0.039 | 0.000 | <0.003 |
| November, 1996 | 0.091 | 0.118 | 0.080 | 0.080 | 0.027 | 0.034 | 0.000 | <0.004 |
| December, 1996 | 0.078 | 0.102 | 0.220 | 0.490 | 0.021 | 0.026 | 0.000 | <0.004 |
| Maximum 1996-2000 | 0.178 | 0.214 | 0.220 | 0.490 | 0.073 | 0.194 | 0.000 | <0.008 |

**Table 5: Outfall 002 Wastewater Characterization; parameters sampled quarterly (all units are in pounds per day)**

| **Parameter** | **Toluene** | **Benzene** | **Ethyl-benzene** | **Bis(2-ethylhexyl) phthalate** | **Fluorene** | **Naphthalene** |
|---|---|---|---|---|---|---|
| Permit Limit | 0.106 | 1.140 | 0.241 | 0.241 | 0.241 | 0.571 |
| 1st quarter 2000 | <0.022 | <0.022 | <0.022 | <0.005 | <0.005 | <0.005 |
| 2nd quarter 2000 | <0.009 | <0.009 | <0.009 | <0.016 | <0.016 | <0.016 |
| 3rd quarter 2000 | <0.009 | <0.009 | <0.009 | <0.014 | <0.014 | <0.014 |
| 4th quarter 2000 | <0.008 | <0.008 | <0.008 | <0.015 | <0.015 | <0.015 |
| 1st quarter 1999 | <0.011 | <0.011 | <0.011 | <0.004 | <0.004 | <0.004 |
| 2nd quarter 1999 | <0.011 | <0.011 | <0.011 | 0.007 | <0.004 | <0.004 |
| 3rd quarter 1999 | <0.010 | <0.010 | <0.010 | 0.003 | <0.003 | <0.003 |
| 4th quarter 1999 | <0.007 | <0.007 | <0.007 | <0.005 | <0.005 | <0.005 |

**Table 5: Outfall 002 Wastewater Characterization; parameters sampled quarterly (all units are in pounds per day)**

| Parameter | Toluene | Benzene | Ethyl-benzene | Bis(2-ethylhexyl) phthalate | Fluorene | Naphthalene |
|---|---|---|---|---|---|---|
| Permit Limit | 0.106 | 1.140 | 0.241 | 0.241 | 0.241 | 0.571 |
| 1st quarter 1998 | <0.004 | <0.004 | <0.004 | <0.011 | <0.011 | <0.011 |
| 2nd quarter 1998 | <0.011 | <0.011 | <0.011 | 0.007 | <0.004 | <0.004 |
| 3rd quarter 1998 | <0.009 | <0.009 | <0.009 | <0.003 | <0.003 | <0.003 |
| 4th quarter 1998 | <0.008 | <0.008 | <0.008 | <0.002 | <0.002 | <0.002 |
| 1st quarter 1997 | <0.010 | <0.010 | <0.010 | <0.003 | <0.003 | <0.003 |
| 2nd quarter 1997 | <0.001 | <0.001 | <0.001 | <0.003 | <0.003 | <0.003 |
| 3rd quarter 1997 | <0.001 | <0.001 | <0.001 | <0.003 | <0.003 | <0.003 |
| 4th quarter 1997 | <0.001 | <0.001 | <0.001 | 0.006 | <0.003 | <0.003 |
| 1st quarter 1996 | <0.011 | <0.011 | <0.011 | 0.004 | <0.004 | <0.004 |
| 2nd quarter 1996 | <0.005 | <0.001 | <0.002 | 0.003 | <0.003 | <0.003 |
| 3rd quarter 1996 | <0.004 | <0.001 | <0.001 | 0.003 | <0.003 | <0.003 |
| 4th quarter 1996 | <0.003 | <0.001 | <0.001 | 0.005 | <0.002 | <0.002 |
| Maximum 1996-2000 | <0.022 | <0.022 | <0.022 | 0.007 & <0.016 | <0.016 | <0.016 |

**Table 6: Outfall 002 Wastewater Characterization; parameters sampled annually were never detected except methylene chloride in 2000 (all units are in pounds per day)**

| Parameter | Permit Limit | 2000 | 1999 | 1998 | 1997 | 1996 |
|---|---|---|---|---|---|---|
| Acenaphthene | **0.241** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| 1,2,4-Trichlorobenzene | **0.571** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Hexachlorobenzene | **0.114** | <0.009 | <0.008 | <0.007 | <0.006 | <0.007 |
| Hexachloroethane | **0.220** | <0.009 | <0.008 | <0.007 | <0.006 | <0.007 |
| 2-Chlorophenol | **0.400** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| 1,2-Dichlorobenzene | **0.665** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| 1,3-Dichlorobenzene | **0.180** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| 1,4-Dichlorobenzene | **0.114** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| 2,4-Dichlorophenol | **0.457** | <0.009 | <0.008 | <0.007 | <0.006 | <0.007 |
| 2,4-Dimethylphenol | **0.147** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| 2,4-Dinitrotoluene | **1.163** | <0.009 | <0.008 | <0.007 | <0.006 | <0.007 |

**Table 6: Outfall 002 Wastewater Characterization; parameters sampled annually were never detected except methylene chloride in 2000 (all units are in pounds per day)**

| Parameter | Permit Limit | 2000 | 1999 | 1998 | 1997 | 1996 |
|---|---|---|---|---|---|---|
| 2,6-Dinitrotoluene | **2.615** | <0.009 | <0.008 | <0.007 | <0.006 | <0.007 |
| Fluoranthene | **0.277** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Hexachlorobutadiene | **0.200** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Nitrobenzene | **0.277** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| 2-Nitrophenol | **0.282** | <0.009 | <0.008 | <0.007 | <0.006 | <0.007 |
| 4-Nitrophenol | **0.506** | <0.045 | <0.041 | <0.040 | <0.032 | <0.037 |
| 2,4 Dinitrophenol | **0.502** | <0.045 | <0.041 | <0.040 | <0.032 | <0.037 |
| 4,6-Dinitro-o-cresol | **1.130** | <0.045 | <0.041 | <0.040 | <0.032 | <0.037 |
| Di-n-butyl phthalate | **0.233** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Diethyl phthalate | **0.828** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Dimethyl phthalate | **0.192** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Benzo(a)anthracene | **0.241** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Benzo(a)pyrene | **0.249** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| 3,4-Benzofluoroanthene | **0.249** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Benzo(k)fluoroanthene | **0.241** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Chrysene | **0.241** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Acenaphthylene | **0.241** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Anthracene | **0.241** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Phenanthrene | **0.241** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Pyrene | **0.273** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Acrylonitrile | **0.987** | <0.008 | <0.004 | <0.004 | <0.003 | <0.004 |
| Carbon Tetrachloride | **0.155** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| Chlorbenzene | **0.114** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| 1,2-Dichloroethane | **0.861** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| 1,1,1-Trichloroethane | **0.220** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| 1,1-Dichloroethane | **0.241** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| 1,1,2-Trichloroethane | **0.220** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| Chloroethane | **1.093** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| Chloroform | **0.188** | <0.022 | <0.011 | <0.011 | <0.010 | <0.004 |
| 1,1-Dichloroethylene | **0.102** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| 1,2-trans-Dichloroethylene | **0.220** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| 1,2-Dichloropropane | **0.938** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| 1,3-Dichloropropylene | **0.180** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| Methylene Chloride | **0.363** | 0.004 | <0.011 | <0.011 | <0.010 | <0.011 |
| Methyl Chloride | **0.775** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| Tetrachloroethylene | **0.229** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| Trichloroethylene | **0.220** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| Vinyl Chloride | **1.093** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |

**Table 7: All other parameters detected in the effluent and listed in the application.**

| Parameter | Maximum Daily | |
|---|---|---|
| | mg/L | lb/day |
| Biochemical Oxygen Demand | 13 | 45 |

**Table 7: All other parameters detected in the effluent and listed in the application.**

| Parameter | Maximum Daily | |
|---|---|---|
| | mg/L | lb/day |
| (BOD) | | |
| Chemical Oxygen Demand (COD) | 456 | 553 |
| Total Organic Carbon (TOC) | 45 | 117 |
| Total Suspended Solids (TSS) | 26 | 105 |
| Ammonia | 21 | 23 |
| pH (standard units) | 8.1-8.4 | |
| Color (color units) | 25 | |
| Nitrate-Nitrite (as N) | 24 | 32 |
| Nitrogen, Total Organic (as N) | 2.8 | 4 |
| Phosphorus, Total (as P) | 3.7 | 9.6 |
| Sulfate (as $SO_4$) | 59 | 154 |
| Cobalt, Total | 0.22 | 0.29 |
| Iron, Total | 0.25 | 0.33 |
| Magnesium, Total | 16 | 21 |
| Manganese, Total | 0.016 | 0.02 |
| Tin, Total | 0.1 | 0.13 |
| Cyanide | 0.14 | 0.21 |
| Methylene Chloride | 0.00097 | 0.004 |

## PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the State of Washington were determined and included in this permit. Ecology does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent**.** Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation**.** Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances the permit does not authorize discharge of the non-reported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology. The Permittee may be in violation of the permit until the permit is modified to reflect additional discharge of pollutants.

*DESIGN CRITERIA*

In accordance with WAC 173-220-150 (1)(g), flows or waste loadings shall not exceed approved design criteria.

The design criteria for this treatment facility are taken from February 1995 engineering report prepared by Parametrix and amended on January 15, 1999. The criteria are as follows:

1. Peak wastewater flow of 400 gallons per minute (gpm)
2. Biochemical oxygen demand (BOD) loading for maximum day of 5,000 pounds per day

*TECHNOLOGY-BASED EFFLUENT LIMITATIONS AT OUTFALL OO2*

The following technology-based effluent limitations are based on the federal effluent guidelines and standards and are considered AKART, 40 CFR Part 414 Subparts F, G, H and I. See Table 15, Table 16 and Table 17 in Appendix C for details.

**Table 8: Technology-based effluent limitations**

| Parameter | Limitations | |
|---|---|---|
| | **Maximum Daily** | **Average Monthly** |
| 1. pH | Within the range of 6.0 to 9.0 at all times | |
| | **Pounds per day** | |
| 2. 5-day Biochemical Oxygen Demand ($BOD_5$) | 277 | 104 |
| 3. Total Suspended Solids (TSS) | 412 | 127 |
| 4. Copper | 1.54 | 0.67 |
| 5. Nickel | 1.13 | 0.50 |
| 6. Zinc | 1.19 | 0.49 |
| 7. Phenol | 0.125 | 0.072 |
| 8. Toluene | 0.384 | 0.125 |
| 9. Benzene | 0.653 | 0.178 |
| 10. Ethylbenzene | 0.519 | 0.154 |
| 11. Bis(2-ethylhexyl) phthalate | 1.340 | 0.495 |
| 12. Fluorene | 0.283 | 0.106 |
| 13. Naphthalene | 0.283 | 0.106 |
| 14. Acenaphthene | 0.283 | 0.106 |
| 15. Acrylonitrile | 1.163 | 0.461 |
| 16. Carbon Tetrachloride | 0.183 | 0.086 |
| 17. Chlorobenzene | 0.135 | 0.072 |
| 18. 1,2,4-Trichlorobenzene | 0.673 | 0.327 |
| 19. Hexachlorobenzene | 0.135 | 0.072 |
| 20. 1,2-Dichloroethane | 1.014 | 0.327 |
| 21. 1,1,1-Trichloroethane | 0.259 | 0.101 |
| 22. Hexachloroethane | 0.259 | 0.101 |
| 23. 1,1-Dichloroethane | 0.283 | 0.106 |
| 24. 1,1,2-Trichloroethane | 0.259 | 0.101 |
| 25. Chloroethane | 1.287 | 0.500 |
| 26. Chloroform | 0.221 | 0.101 |

**Table 8: Technology-based effluent limitations**

| Parameter | Limitations | |
|---|---|---|
| | Maximum Daily | Average Monthly |
| 27. 2-Chlorophenol | 0.471 | 0.149 |
| 28. 1,2-Dichlorobenzene | 0.783 | 0.370 |
| 29. 1,3-Dichlorobenzene | 0.211 | 0.149 |
| 30. 1,4-Dichlorobenzene | 0.135 | 0.072 |
| 31. 1,1-Dichloroethylene | 0.120 | 0.077 |
| 32. 1,2-trans-Dichloroethylene | 0.259 | 0.101 |
| 33. 2,4-Dichlorophenol | 0.538 | 0.187 |
| 34. 1,2-Dichloropropane | 1.105 | 0.735 |
| 35. 1,3-Dichloropropylene | 0.211 | 0.139 |
| 36. 2,4-Dimethylphenol | 0.173 | 0.086 |
| 37. 2,4-Dinitrotoluene | 1.369 | 0.543 |
| 38. 2,6-Dinitrotoluene | 3.079 | 1.225 |
| 39. Fluoranthene | 0.327 | 0.120 |
| 40. Methylene Chloride | 0.428 | 0.192 |
| 41. Methyl Chloride | 0.913 | 0.413 |
| 42. Hexachlorobutadiene | 0.235 | 0.096 |
| 43. Nitrobenzene | 0.327 | 0.130 |
| 44. 2-Nitrophenol | 0.331 | 0.197 |
| 45. 4-Nitrophenol | 0.596 | 0.346 |
| 46. 2,4-Dinitrophenol | 0.591 | 0.341 |
| 47. 4,6-Dinitro-o-cresol | 1.331 | 0.375 |
| 48. Di-n-butyl phthalate | 0.274 | 0.130 |
| 49. Diethyl phthalate | 0.975 | 0.389 |
| 50. Dimethyl phthalate | 0.226 | 0.091 |
| 51. Benzo(a)anthracene | 0.283 | 0.106 |
| 52. Benzo(a)pyrene | 0.293 | 0.110 |
| 53. 3,4-Benzofluoranthene | 0.293 | 0.110 |
| 54. Benzo(k)fluoranthene | 0.283 | 0.106 |
| 55. Chrysene | 0.283 | 0.106 |
| 56. Acenaphthylene | 0.283 | 0.106 |
| 57. Anthracene | 0.283 | 0.106 |
| 58. Phenanthrene | 0.283 | 0.106 |
| 59. Pyrene | 0.322 | 0.120 |
| 60. Tetrachloroethylene | 0.269 | 0.106 |
| 61. Trichloroethylene | 0.259 | 0.101 |
| 62. Vinyl Chloride | 1.287 | 0.500 |

The following performance -based effluent limitations are considered AKART. See Table 18 and Table 19 in Appendix C for details.

**Table 9: Performance-based effluent limitations**

| Parameter | Limitations | |
|---|---|---|
| | Maximum Daily | Average Monthly |
| Bis(2-ethylhexyl) phthalate (µg/L) | 5 | 3 |
| Temperature (degrees Celsius) | 46.0 | 41.2 |

Performance-based effluent limitation for bis(2-ethylhexyl) phthalate is more stringent than technology-based effluent limitations derived from the federal effluent guidelines and standards, therefore it will be placed in the permit. However, the limitation is higher that the water quality criterion for human health protection and the Columbia River at the point of discharge is 303(d) listed for bis(2-ethylhexyl) phthalate, therefore the facility is required to prepare an engineering report. The engineering report shall analyze options and cost to treat bis(2-ethylhexyl) phthalate so the water quality criteria for human health protection of 1.8 micrograms per liter can be met at Outfall 002.

Performance-based effluent limitation for temperature is above the current permit limit therefore the current limit will remain in place.

*SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS AT OUTFALL OO2 AND TEMPERATURE AT OUTFALL OO1*

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect

human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the State of Washington.

ANTIDEGRADATION

The State of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

MIXING ZONES

The Water Quality Standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

DESCRIPTION OF THE RECEIVING WATER

The facility discharges to the Columbia River at Mile 74 which is designated as a Class A receiving water in the vicinity of the outfall. Characteristic uses include the following:

water supply (domestic, industrial, agricultural); stock watering; fish migration; fish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria for the receiving water are summarized below:

| | |
|---|---|
| Fecal Coliforms | 100 organisms/100 mL maximum geometric mean |
| Dissolved Oxygen | 8 mg/L minimum and 90% saturation minimum |
| Temperature | 20 degrees Celsius maximum or incremental increases above background shall not be greater than 0.3 degrees Celsius |
| pH | 6.5 to 8.5 standard units |

| | |
|---|---|
| Turbidity | less than 5 NTU above background |
| Toxics | No toxics in toxic amounts (see Appendix C for numeric criteria for toxics of concern for this discharge) |

The Columbia River (WRIA[1] 27) is listed as impaired on the latest CWA[2] 303(d) list for the following parameters:

1. 4,4'-DDE; not detected in the effluent
2. Arsenic; not detected in the effluent
3. Bis(2-ethylehexyl) phthalate; performance-base limit set in the permit ; an engineering report is required to analyze options and cost to treat bis(2-ethylhexyl) phthalate so the water quality criteria for human health protection of 1.8 micrograms per liter can be met at Outfall 002.

4. Dieldrin; not detected in the effluent
5. PCB-1254; not detected in the effluent
6. Temperature; permit limit is based on performance of the facility in early 90' and meets water quality criteria at the edge of chronic mixing zone
7. Total dissolved gas; Noveon Kalama is not a source that would contribute to the surface water quality criteria violation

The Columbia River TMDL[3] to assign waste load allocations for pollutants has not been done yet.

CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

Pollutant concentrations in the proposed discharge exceed water quality criteria with technology-based controls which the Department has determined to be AKART. Mixing zones are authorized in accordance with the geometric configuration, flow restriction, and other restrictions for mixing zones in Chapter 173-201A WAC and are defined as follows:

- The acute mixing zone (AMZ) boundary under these criteria would be a 32.5 foot downstream from each discharge port, with an upstream boundary 10.0 feet upstream of the nearest diffuser port.
- The chronic mixing zone (CMZ) boundary under these criteria would be a 325 foot downstream from each discharge port, with an upstream boundary 100 feet upstream of the nearest diffuser port.

The dilution factors of effluent to receiving water that occur within these zones have been determined by the permittee at the critical condition by the use of RSB and UM models running under the PLUMES interface[4]. The UM model was used to determine the dilution occurring in the AMZ boundary. The RSB model was used to determine the dilution occurring at the CMZ boundary. Additional dilution of wastewater discharged from Outfall 002 occurs when combined with non-contact cooling water in Outfall 001 (18.5/0.576=32.1). The dilution factors are listed in Table 10.

[1] Water Resource Inventory Area
[2] Clean Water Act
[3] Total Maximum Daily Load
[4] Beak Consultants, Incorporated; June 29, 1993

**Table 10: Dilution factors**

| | Outfall 002 in Outfall 001 | Acute Outfall 001 | Acute Outfall 002 | Chronic Outfall 001 | Chronic Outfall 002 |
|---|---|---|---|---|---|
| Aquatic Life (7Q10=87,583 cfs[5]) | 32.1 | 8.3 | 270 | 21.1 | 678 |
| Human Health, Carcinogen (harmonic mean=174,000 cfs) | 32.1 | | | Not determined | |
| Human Health, Non-carcinogen (30Q5=130,000 cfs) | 32.1 | | | Not determined | |

Pollutants in an effluent may affect the aquatic environment near the point of discharge (near field) or at a considerable distance from the point of discharge (far field). Toxic pollutants, for example, are near-field pollutants--their adverse effects diminish rapidly with mixing in the receiving water. Conversely, a pollutant such as BOD is a far-field pollutant whose adverse effect occurs away from the discharge even after dilution has occurred. Thus, the method of calculating surface water quality-based effluent limits varies with the point at which the pollutant has its maximum effect.

The derivation of surface water quality-based limits also takes into account the variability of the pollutant concentrations in both the effluent and the receiving water.

$BOD_5$--This discharge with technology-based limitations results in a small amount of BOD loading relative to the large amount of dilution occurring in the receiving water at critical conditions. Technology-based limitations will be protective of dissolved oxygen criteria in the receiving water.

Temperature--The impact of the discharge on the temperature of the receiving water was modeled by heat dissipation at the critical condition. The receiving water temperature at the critical condition is 21.5°C and the effluent temperature is 40.7°C at the 99th percentile. The predicted resultant temperature at the boundary of the chronic mixing zone is 21.72°C and the incremental rise is 0.22°C.

The heat dissipation factor of 89 was used to calculate the predicted resultant temperature (1993 Beak Consultants Mixing Zone Study).

Under critical conditions there is no predicted violation of the Water Quality Standards for Surface Waters. Therefore, an effluent limitation for temperature of 40.7°C was placed in the proposed permit based upon the Department's best professional judgment.

pH--Compliance with the technology-based limits of 6 to 9 will assure compliance with the Water Quality Standards for Surface Waters.

Turbidity--Due to the large degree of dilution, it was determined that the turbidity criteria would not be violated outside the designated mixing zone.

Toxic Pollutants--Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits defined in regulation are not exempted from meeting the Water Quality Standards for Surface Waters or from having surface water quality-based effluent limits.

[5] Cubic feet per second

The following toxics were determined to be present or to have potential to be present in the discharge:

1. Ammonia
2. Benzene
3. Bis (2-ethylhexyl) phthalate
4. Copper
5. Cyanide
6. Ethylbenzene
7. Fluorene
8. Iron
9. Manganese
10. Methylene Chloride
11. Naphthalene
12. Nickel
13. Phenol
14. Toluene
15. Zinc

The determination of the reasonable potential for these pollutants to exceed the water quality criteria was evaluated with procedures given in EPA, 1991 at the critical condition (see Appendix C). The critical condition in this case occurs in a different time of a year for different parameters. The parameters used in the critical condition modeling are as follows: acute dilution factor 270, chronic dilution factor 678, receiving water temperature 21.5$^{o}$C, receiving water alkalinity 53.75 (as mg $CaCO_3$/L), and receiving water pH 8.6.

No valid ambient background data in the immediate vicinity of the discharge was available for said pollutants. A determination of reasonable potential using zero for background resulted in no reasonable potential for all above listed pollutants except bis (2-ethylhexyl) phthalate. Calculating reasonable potential for bis (2-ethylhexyl) phthalate at zero dilution was assumed since the Columbia River is on 303(d) list for said pollutant. The Permittee is required to collect background concentration data at the cooling water inlet to the plant for bis (2-ethylhexyl) phthalate. This information may result in a permit modification or more restrictive limits in the next renewal.

WHOLE EFFLUENT TOXICITY

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing. Some WET tests measure acute toxicity and other WET tests measure chronic toxicity.

Acute toxicity tests measure mortality as the significant response to the toxicity of the effluent. Dischargers who monitor their wastewater with acute toxicity tests are providing an indication of the potential lethal effect of the effluent to organisms in the receiving environment.

Chronic toxicity tests measure various sublethal toxic responses such as retarded growth or reduced reproduction. Chronic toxicity tests often involve either a complete life cycle test of an organism with an extremely short life cycle or a partial life cycle test on a critical stage of one of a test organism's life cycles. Organism survival is also measured in some chronic toxicity tests.

Accredited WET testing laboratories have the proper WET testing protocols, data requirements, and reporting format. Accredited laboratories are knowledgeable about WET testing and capable of calculating an NOEC, $LC_{50}$, $EC_{50,}$ $IC_{25}$, etc. All accredited labs have been provided the most recent version of the Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* which is referenced in the permit. Any Permittee interested in receiving a copy of this publication may call the Ecology Publications Distribution Center 360-407-7472 for a copy. Ecology recommends that Permittees send a copy of the acute or chronic toxicity sections(s) of their permits to their laboratory of choice.

An effluent characterization for acute and chronic toxicity was conducted during the previous permit term. In accordance with WAC 173-205-060, the Permittee must repeat this effluent characterization for the following reason:

The Permittee applied for the 37% increase in effluent limitations because of production increases by 37 percent. In accordance with WAC 173-205-060(1), the proposed permit requires another effluent characterization for toxicity. Under the rule, the discharge is Discharge Rank 3 (see Table 9). Effluent characterization for acute and chronic toxicity shall be conducted quarterly.

**Table 11 Discharge Ranking System, DOE 1994**

| Category | Subcategory | Score | Sum of Scores |
|---|---|---|---|
| A. Toxicity likelihood | Substances listed in 40 CFR 302.4 with BMPs | 5 | |
| | Substances listed in 40 CFR 302.4 without BMPs | | |
| | Pollutants listed in 40 CFR Part 122, Appendix D | 15 | |
| | Industrial category listed in 40 CFR Part 122, Appendix A | 15 | |
| | POTW | | |
| | Acute toxicity previously detected | | |
| | Receiving water impacted | | |
| | | Sum of scores: | 35 |

| Category | Subcategory | Score | Sum of Scores |
|---|---|---|---|
| B. Potential for impact | Average annual discharge flow: 12.5-25 mgd[6] | 15 | |
| | CCEC[7]=5% | 15 | |
| | | Sum of scores: | 30 |
| | | Total score: | 35x30=1050 |
| | | Discharge Rank: | 3 |
| | | Acute/chronic toxicity effluent characterization: | 4/year, 1 fish and 1 invertebrate |

The Permittee is also required to use rapid screening tests whenever untreated spills discharge from Outfalls 001 or 002 to assure toxicity does not appear. If a rapid screening test indicates that toxicity has appeared, the Permittee will investigate immediately and take appropriate action.

If the Permittee makes process or material changes which, in the Department's opinion, results in an increased potential for effluent toxicity, then the Department may require additional effluent characterization in a regulatory order, by permit modification, or in the permit renewal. Toxicity is assumed to have increased if WET testing conducted in response to rapid screening tests fails to meet the performance standards in WAC 173-205-020 "whole effluent toxicity performance standard".

HUMAN HEALTH

Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

The Department has determined that the effluent is likely to have chemicals of concern for human health. The discharger's high priority status is based on (1) the discharger's status as a major discharger, (2) knowledge of data or process information indicating regulated chemicals occur in the discharge, and (3) the applicant discharges to a waterbody that is 303(d) listed for a regulated chemical, and that chemical is known or expected to be in the effluent.

A determination of the discharge's potential to cause an exceedance of the water quality standards was conducted as required by 40 CFR 122.44(d). The reasonable potential determination was evaluated with procedures given in the Technical Support Document for Water Quality-Based Toxics Control (EPA/505/2-90-001) and the Department's Permit Writer's Manual (Ecology Publication 92-109, July, 1994). The determination indicated that the discharge has no reasonable potential to cause a violation of water quality standards, thus an effluent limit is not warranted.

[6] Millions of gallons per day
[7] Chronic critical effluent concentration

*GROUND WATER QUALITY LIMITATIONS*

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

This Permittee has no discharge to ground and therefore no limitations are required based on potential effects to ground water.

*COMPARISON OF EFFLUENT LIMITS WITH THE EXISTING PERMIT ISSUED ON MARCH 1, 1996*

**Table 12: Existing and proposed effluent limitations**

| Outfall | Parameter | Existing Limitations | | Proposed Limitations | |
|---|---|---|---|---|---|
| | | Daily Maximum | Monthly Average | Daily Maximum | Monthly Average |
| 001 | Temperature | 40.7 °C | N/A | 40.7 °C | N/A |
| | Pounds per day | | | | |
| 002 | $BOD_5$ | 206 | 78 | 277 | 104 |
| 002 | TSS | 293 | 90 | 412 | 127 |
| 002 | Copper | 1.12 | 0.49 | 1.54 | 0.67 |
| 002 | Nickel | 0.70 | 0.32 | 1.13 | 0.50 |
| 002 | Zinc | 0.87 | 0.36 | 1.19 | 0.49 |
| 002 | Phenol | 0.106 | 0.061 | 0.125 | 0.072 |
| 002 | Toluene | 0.327 | 0.106 | 0.384 | 0.125 |
| 002 | Benzene | 0.556 | 0.151 | 0.653 | 0.178 |
| 002 | Ethylbenzene | 0.441 | 0.131 | 0.519 | 0.154 |
| 002 | Bis(2-ethylhexyl) phthalate | 1.140 (279 µg/L) | 0.421 (103 µg/L) | 5 µg/L | 3 µg/L |
| 002 | Fluorene | 0.241 | 0.090 | 0.283 | 0.106 |
| 002 | Naphthalene | 0.241 | 0.090 | 0.283 | 0.106 |
| 002 | Acenaphthene | 0.241 | 0.090 | 0.283 | 0.106 |
| 002 | Acrylonitrile | 0.987 | 0.392 | 1.163 | 0.461 |
| 002 | Carbon Tetrachloride | 0.155 | 0.073 | 0.183 | 0.086 |
| 002 | Chlorobenzene | 0.114 | 0.061 | 0.135 | 0.072 |
| 002 | 1,2,4-Trichlorobenzene | 0.571 | 0.277 | 0.673 | 0.327 |
| 002 | Hexachlorobenzene | 0.114 | 0.061 | 0.135 | 0.072 |
| 002 | 1,2-Dichloroethane | 0.861 | 0.277 | 1.014 | 0.327 |
| 002 | 1,1,1-Trichloroethane | 0.220 | 0.086 | 0.259 | 0.101 |
| 002 | Hexachloroethane | 0.220 | 0.086 | 0.259 | 0.101 |
| 002 | 1,1-Dichloroethane | 0.241 | 0.090 | 0.283 | 0.106 |
| 002 | 1,1,2-Trichloroethane | 0.220 | 0.086 | 0.259 | 0.101 |
| 002 | Chloroethane | 1.093 | 0.424 | 1.287 | 0.500 |
| 002 | Chloroform | 0.188 | 0.086 | 0.221 | 0.101 |
| 002 | 2-Chlorophenol | 0.400 | 0.126 | 0.471 | 0.149 |
| 002 | 1,2-Dichlorobenzene | 0.665 | 0.314 | 0.783 | 0.370 |
| 002 | 1,3-Dichlorobenzene | 0.180 | 0.126 | 0.211 | 0.149 |
| 002 | 1,4-Dichlorobenzene | 0.114 | 0.061 | 0.135 | 0.072 |
| 002 | 1,1-Dichloroethylene | 0.102 | 0.065 | 0.120 | 0.077 |
| 002 | 1,2-trans- | 0.220 | 0.086 | 0.259 | 0.101 |

**Table 12: Existing and proposed effluent limitations**

| Outfall | Parameter | Existing Limitations | | Proposed Limitations | |
|---|---|---|---|---|---|
| | | Daily Maximum | Monthly Average | Daily Maximum | Monthly Average |
| | Dichloroethylene | | | | |
| 002 | 2,4-Dichlorophenol | 0.457 | 0.159 | 0.538 | 0.187 |
| 002 | 1,2-Dichloropropane | 0.938 | 0.624 | 1.105 | 0.735 |
| 002 | 1,3-Dichloropropylene | 0.180 | 0.118 | 0.211 | 0.139 |
| 002 | 2,4-Dimethylphenol | 0.147 | 0.073 | 0.173 | 0.086 |
| 002 | 2,4-Dinitrotoluene | 1.163 | 0.461 | 1.369 | 0.543 |
| 002 | 2,6-Dinitrotoluene | 2.615 | 1.040 | 3.079 | 1.225 |
| 002 | Fluoranthene | 0.277 | 0.102 | 0.327 | 0.120 |
| 002 | Methylene Chloride | 0.363 | 0.163 | 0.428 | 0.192 |
| 002 | Methyl Chloride | 0.775 | 0.351 | 0.913 | 0.413 |
| 002 | Hexachlorobutadiene | 0.200 | 0.082 | 0.235 | 0.096 |
| 002 | Nitrobenzene | 0.277 | 0.110 | 0.327 | 0.130 |
| 002 | 2-Nitrophenol | 0.282 | 0.167 | 0.331 | 0.197 |
| 002 | 4-Nitrophenol | 0.506 | 0.294 | 0.596 | 0.346 |
| 002 | 2,4-Dinitrophenol | 0.502 | 0.290 | 0.591 | 0.341 |
| 002 | 4,6-Dinitro-o-cresol | 1.130 | 0.318 | 1.331 | 0.375 |
| 002 | Di-n-butyl phthalate | 0.233 | 0.110 | 0.274 | 0.130 |
| 002 | Diethyl phthalate | 0.828 | 0.330 | 0.975 | 0.389 |
| 002 | Dimethyl phthalate | 0.192 | 0.078 | 0.226 | 0.091 |
| 002 | Benzo(a)anthracene | 0.241 | 0.090 | 0.283 | 0.106 |
| 002 | Benzo(a)pyrene | 0.249 | 0.094 | 0.293 | 0.110 |
| 002 | 3,4-Benzofluoranthene | 0.249 | 0.094 | 0.293 | 0.110 |
| 002 | Benzo(k) fluoranthene | 0.241 | 0.090 | 0.283 | 0.106 |
| 002 | Chrysene | 0.241 | 0.090 | 0.283 | 0.106 |
| 002 | Acenaphthylene | 0.241 | 0.090 | 0.283 | 0.106 |
| 002 | Anthracene | 0.241 | 0.090 | 0.283 | 0.106 |
| 002 | Phenanthrene | 0.241 | 0.090 | 0.283 | 0.106 |
| 002 | Pyrene | 0.273 | 0.102 | 0.322 | 0.120 |
| 002 | Tetrachloroethylene | 0.229 | 0.090 | 0.269 | 0.106 |
| 002 | Trichloroethylene | 0.220 | 0.086 | 0.259 | 0.101 |
| 002 | Vinyl Chloride | 1.093 | 0.424 | 1.287 | 0.500 |

## MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

The Department is proposing to modify the monitoring frequency as follows:

- Add Arsenic monitoring once per month, due to listing on the 303(d) (Outfall 001)
- pH is being increased to continuous (Outfall 002)
- $BOD_5$ and TSS sampling frequency is being increased to once a week (Outfall 002)
- Copper, nickel, zinc and phenol sampling frequency is being decreased to once a month; in 1996-2000 permit limits have always been met (Outfall 002)
- Bis(2-ethylhexyl) phthalate is being increased to once a month (the Columbia River in the vicinity of outfall is on the 303(d) list for bis(2-ethylhexyl) phthalate and the pollutant is present in the discharge) (Outfall 002)
- Toluene, benzene, ethylbenzene, fluorene and naphthalene sampling frequency is being kept on the same level, once per quarter (Outfall 002)
- Sampling for remaining organic chemicals is waived for the term of the permit (Outfall 002)
- Add PCB 1254 due to the 303(d) listing, once per quarter (Outfall 001)
- Add Toluene due to frequent spills, weekly (Outfall 001)

The Department may authorize a discharger subject to technology-based effluent limitations guidelines and standards in an NPDES permit to forego sampling of a pollutant found at 40 CFR Subchapter N of this chapter if the discharger has demonstrated through sampling and other technical factors that the pollutant is not present in the discharge or is present only at background levels from intake water and without any increase in the pollutant due to activities of the discharger, 40 CFR Part 122.44(a)(2).

The Permittee has demonstrated, based on monitoring during the past ten years, that the pollutants listed in Table 13 are not present in the discharge. Therefore, the Department waives monitoring of those pollutants. Sampling and analysis for all priority toxic pollutants, including those listed below, is required when the permittee applies for renewal.

**Table 13: List of pollutants waived from monitoring**

| Parameter | Permit Limit | 2000 | 1999 | 1998 | 1997 | 1996 |
|---|---|---|---|---|---|---|
| | **Pounds per day (max)** | **Pounds per day (max)** | **Pounds per day (max)** | **Pounds per day (max)** | **Pounds per day (max)** | **Pounds per day (max)** |
| Acenaphthene | **0.241** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| 1,2,4-Trichlorobenzene | **0.571** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Hexachlorobenzene | **0.114** | <0.009 | <0.008 | <0.007 | <0.006 | <0.007 |
| Hexachloroethane | **0.220** | <0.009 | <0.008 | <0.007 | <0.006 | <0.007 |
| 2-Chlorophenol | **0.400** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| 1,2-Dichlorobenzene | **0.665** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| 1,3-Dichlorobenzene | **0.180** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| 1,4-Dichlorobenzene | **0.114** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| 2,4-Dichlorophenol | **0.457** | <0.009 | <0.008 | <0.007 | <0.006 | <0.007 |
| 2,4-Dimethylphenol | **0.147** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| 2,4-Dinitrotoluene | **1.163** | <0.009 | <0.008 | <0.007 | <0.006 | <0.007 |
| 2,6-Dinitrotoluene | **2.615** | <0.009 | <0.008 | <0.007 | <0.006 | <0.007 |
| Fluoranthene | **0.277** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Hexachlorobutadiene | **0.200** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Nitrobenzene | **0.277** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| 2-Nitrophenol | **0.282** | <0.009 | <0.008 | <0.007 | <0.006 | <0.007 |
| 4-Nitrophenol | **0.506** | <0.045 | <0.041 | <0.040 | <0.032 | <0.037 |

**Table 13: List of pollutants waived from monitoring**

| Parameter | Permit Limit | 2000 | 1999 | 1998 | 1997 | 1996 |
|---|---|---|---|---|---|---|
| | **Pounds per day (max)** | **Pounds per day (max)** | **Pounds per day (max)** | **Pounds per day (max)** | **Pounds per day (max)** | **Pounds per day (max)** |
| 2,4 Dinitrophenol | **0.502** | <0.045 | <0.041 | <0.040 | <0.032 | <0.037 |
| 4,6-Dinitro-o-cresol | **1.130** | <0.045 | <0.041 | <0.040 | <0.032 | <0.037 |
| Di-n-butyl phthalate | **0.233** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Diethyl phthalate | **0.828** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Dimethyl phthalate | **0.192** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Benzo(a)anthracene | **0.241** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Benzo(a)pyrene | **0.249** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| 3,4-Benzofluoroanthene | **0.249** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Benzo(k)fluoroanthene | **0.241** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Chrysene | **0.241** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Acenaphthylene | **0.241** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Anthracene | **0.241** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Phenanthrene | **0.241** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Pyrene | **0.273** | <0.005 | <0.004 | <0.004 | <0.003 | <0.004 |
| Acrylonitrile | **0.987** | <0.008 | <0.004 | <0.004 | <0.003 | <0.004 |
| Carbon Tetrachloride | **0.155** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| Chlorbenzene | **0.114** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| 1,2-Dichloroethane | **0.861** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| 1,1,1-Trichloroethane | **0.220** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| 1,1-Dichloroethane | **0.241** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| 1,1,2-Trichloroethane | **0.220** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| Chloroethane | **1.093** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| Chloroform | **0.188** | <0.022 | <0.011 | <0.011 | <0.010 | <0.004 |
| 1,1-Dichloroethylene | **0.102** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| 1,2-trans-Dichloroethylene | **0.220** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| 1,2-Dichloropropane | **0.938** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| 1,3-Dichloropropylene | **0.180** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| Methylene Chloride | **0.363** | 0.004 | <0.011 | <0.011 | <0.010 | <0.011 |
| Methyl Chloride | **0.775** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| Tetrachloroethylene | **0.229** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| Trichloroethylene | **0.220** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |
| Vinyl Chloride | **1.093** | <0.022 | <0.011 | <0.011 | <0.010 | <0.011 |

This waiver is good only for the term of the permit.

Any request for this waiver must be submitted when applying for a reissued permit or modification of a reissued permit. The request must demonstrate through sampling or other technical information, including information generated during an earlier permit term that the pollutant is not present in the discharge or is present only at background levels from intake water and without any increase in the pollutant due to activities of the discharger.

An application for the permit reissuance or modification must include Environmental Protection Agency (EPA) Application Forms 1 and 2C with characterization of all pollutants required by Item V in the EPA Application Forms 2C.

*LAB ACCREDITATION*

With the exception of certain parameters, the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories.*

## OTHER PERMIT CONDITIONS

*REPORTING AND RECORD KEEPING*

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

*SPILL PLAN*

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department.

*POLLUTION PREVENTION PLAN*

Pollution prevention is a priority for the Department and it is inherent in the goals of the Clean Water Act (zero discharge), therefore, this permit requires preparation of the Pollution Prevention Plan.

*TREATMENT SYSTEM OPERATING PLAN*

In accordance with state and federal regulations, the Permittee is required to take all reasonable steps to properly operate and maintain the treatment system (40 CFR 122.41(e)) and WAC 173-220-150 (1)(g).

*GENERAL CONDITIONS*

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

## PERMIT ISSUANCE PROCEDURES

*PERMIT MODIFICATIONS*

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

*RECOMMENDATION FOR PERMIT ISSUANCE*

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. The Department proposes that this proposed permit be issued for two years.

Subsequent permits will be issued for five-year terms, consistent with other facilities in the Columbia Gorge Water Quality Management Area. The next permit may be eligible for issuance as a reauthorized permit provided an application is timely received and the facility meets other eligibility criteria.

## REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology (DOE).

1994. Permit Writer's Manual. Publication Number 92-109

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(EE2). (Cited in EPA 1985 op.cit.)

## APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on August 19 and 26, 2001 in Longview's *The Daily News* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on March 9, 2002 in Longview's *The Daily News* to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Industrial Permit Coordinator
Department of Ecology
Southwest Regional Office
PO Box 47775
Olympia, WA 98504-7775

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (360) 407-6280, or by writing to the address listed above.

This permit was written by Jacek Anuszewski, P.E.

## APPENDIX B--GLOSSARY

**Acute Toxicity**--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

**AKART**-- An acronym for "all known, available, and reasonable methods of treatment".

**Ambient Water Quality**--The existing environmental condition of the water in a receiving water body.

**Ammonia**--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

**Average Monthly Discharge Limitation** --The average of the measured values obtained over a calendar month's time.

**Best Management Practices (BMPs)**--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

**$BOD_5$**--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The $BOD_5$ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

**Bypass**--The intentional diversion of waste streams from any portion of a treatment facility.

**Chlorine**--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

**Chronic Toxicity**--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

**Clean Water Act (CWA)**--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

**Compliance Inspection - Without Sampling**--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

**Compliance Inspection - With Sampling**--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

**Composite Sample**--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

**Construction Activity**--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

**Continuous Monitoring** –Uninterrupted, unless otherwise noted in the permit.

**Critical Condition**--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

**Dilution Factor**--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

**Engineering Report**--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

**Fecal Coliform Bacteria**--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

**Grab Sample**--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

**Industrial Wastewater**--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

**Major Facility--**A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

**Maximum Daily Discharge Limitation**--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

**Method Detection Level (MDL)--**The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

**Minor Facility--**A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

**Mixing Zone**--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

**National Pollutant Discharge Elimination System (NPDES)**--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

**pH**--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

**Quantitation Level (QL)--** A calculated value five times the MDL (method detection level).

**Responsible Corporate Officer**-- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

**Technology-based Effluent Limit**--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

**Total Suspended Solids (TSS)**--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

**State Waters**--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

**Stormwater**--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

**Upset**--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

**Water Quality-based Effluent Limit**--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

## APPENDIX C--TECHNICAL CALCULATIONS

**Table 14: Spill Table**

| Date | What Was Spilled | Quantity Spilled | Penalty |
|---|---|---|---|
| 7/7/1998 | Partially Treated Wastewater, effluent from anaerobic treatment system equivalent to Septic Tank effluent, overflowed due to a plug in the system | 200 gallons septic tank equivalent wastewater | $1,000 |
| 9/3/1998 | 5000 lbs. Phenol from Overfilled Railcar, about 50% recovered | 575 gallons phenol | $3,000 |
| 10/30/1998 | Partially Treated Wastewater, effluent from anaerobic treatment system equivalent to Septic Tank effluent, overflowed due to a plug in the system | 25 gallons septic tank equivalent wastewater | $9,000 |
| 12/26/1999 | Wastewater Treatment Plant feed line failure | 100 gallons wastewater | $10,000 |
| 12/28/1999 | Break in underground Wastewater Treatment Plant feed line | 12,000 gallons wastewater | $4,000 |
| 5/5/2000 | Anaerobic Treatment Plant slab drain line leak | 50 gallons mostly stormwater | $2,000 |
| 6/6/2000 | Release from Specialty Distillation Drainage Trench from a hole discovered in an underground line. | <100 gallons wastewater | No Penalty |
| 1/4/2001 | Heat Exchanger Tube Leak into cooling water line, 250 pounds Benzene | ~35 gallons Benzene | $6,000 |
| 1/10/2001 | Mud Plug on wastewater sump line during pipe construction leaked | <2 gallons mostly stormwater | No Penalty |
| 1/10/2001 | Metal Pipe Discovered with Holes in Upper 30% found during construction to replace underground wastewater sump line | <100 gallons mostly stormwater | No Penalty |
| 1/23/2001 | Control Valve Leak in Tank T-94, fully treated effluent that meets Kalama's NPDES discharge permit | 5 gallons fully treated effluent | No Penalty |
| 1/6/2001-2/1/2001 | Heat exchanger tube leak into cooling water line, ~10 pounds toluene | ~1.5 gallons toluene | $6,000 |
| 2/28/2001 | Dike Water Release from Tank T-910 due to a crack in the line, sodium benzoate wastewater | 7 gallons wastewater | $2,000 |
| 4/5/2001 | Benzoic Acid Leak into boiler feed water, released through boiler blowdown, 1.5 pounds benzoic acid and 0.003 pounds benzene and toluene | ~0.2 gallons Benzoic Acid & ~0.0004 gallons Benzene | $10,000 |
| 8/6/2001 | Heat Exchanger Tube Leak into cooling water line, <2 pounds toluene | ~0.3 gallons toluene | $10,000 |
| | Total Fines since 7/7/1998 Meeting | | $63,000 |

**Table 15: Calculated Concentration Limits in milligrams per liter (mg/L) for Noveon Kalama Process Wastewater**

| Chemical Compound | Sub-Category | 40 CFR | % of Production[c] (1) | Concentration Limit[a] | | | | Calculated Concentration Limit[b] | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Maximum Daily | | Average Monthly | | Maximum Daily | | Average Monthly | |
| | | | | BOD (2) | TSS (3) | BOD (4) | TSS (5) | BOD (1)x(2) | TSS (1)x(3) | BOD (1)x(4) | TSS (1)x(5) |
| Benzene | Commodity | 414.61 | 0.72% | 80 | 149 | 30 | 46 | 0.57 | 1.07 | 0.21 | 0.33 |
| Phenol | Commodity | 414.61 | 14.56% | 80 | 149 | 30 | 46 | 11.65 | 21.70 | 4.37 | 6.70 |
| Benzoic Acid | Bulk | 414.71 | 58.66% | 92 | 159 | 34 | 49 | 53.97 | 93.27 | 19.94 | 28.74 |
| Nonyl Phenol | Bulk | 414.71 | 0.63% | 92 | 159 | 34 | 49 | 0.58 | 1.01 | 0.22 | 0.31 |
| Benzaldehyde | Specialty | 414.81 | 6.79% | 120 | 183 | 45 | 57 | 8.14 | 12.42 | 3.05 | 3.87 |
| Benzyl Alcohol | Specialty | 414.81 | 2.12% | 120 | 183 | 45 | 57 | 2.54 | 3.88 | 0.95 | 1.21 |
| Sodium/Potassium Benzoate | Specialty | 414.81 | 11.71% | 120 | 183 | 45 | 57 | 14.05 | 21.42 | 5.27 | 6.67 |
| Benzyl/Dibenzyl Amine | Specialty | 414.81 | 0.34% | 120 | 183 | 45 | 57 | 0.41 | 0.62 | 0.15 | 0.19 |
| Plasticizers | Specialty | 414.81 | 3.38% | 120 | 183 | 45 | 57 | 4.06 | 6.19 | 1.52 | 1.93 |
| Amyl & Hexyl & Cinnamic Aldehyde | Specialty | 414.81 | 0.46% | 120 | 183 | 45 | 57 | 0.55 | 0.84 | 0.21 | 0.26 |
| Benzyl Benzoate | Specialty | 414.81 | 0.45% | 120 | 183 | 45 | 57 | 0.54 | 0.82 | 0.20 | 0.25 |
| Benzyl Acetate | Specialty | 414.84 | 0.19% | 120 | 183 | 45 | 57 | 0.23 | 0.35 | 0.09 | 0.11 |
| Total: | | | 100.00% | | | | | 97.29 | 163.57 | 36.19 | 50.58 |
| Concentration Limits for Noveon: | | | | | | | | **97** | **164** | **36** | **51** |

[a] Concentration limits from 40 CFR 414.61, .71, .81, and .84

[b] Concentration limits are calculated as weighted averages of production for each chemical compound

[c] 1999 Production Data

**Table 16: Calculated Mass Discharge Limits for 5-day Biochemical Oxygen Demand ($BOD_5$) and Total Suspended Solids (TSS)**

| Flow Stream | Average Daily Flow (gpm) | Concentration Limit (mg/L) | | | | Mass Limit (lb./day) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Average Monthly | | Maximum Daily | | Average Monthly | | Maximum Daily | |
| | | $BOD_5$ | TSS | $BOD_5$ | TSS | $BOD_5$ | TSS | $BOD_5$ | TSS |
| Process Wastewater | 210 | 36 | 51 | 97 | 164 | 91 | 127 | 245 | 412 |
| Groundwater/Stormwater | 190 | 5.8[a] | 0[b] | 14[c] | 0 | 13 | 0 | 32 | 0 |
| Total Mass Limits[d] | | | | | | **104** | **127** | **277** | **412** |

[a] Groundwater/Stormwater Daily Average $BOD_5$ = 116(1 - 0.95) = 5.8 mg/L

[b] The Department expects no significant contribution of TSS from the groundwater and stormwater associated with industrial activity, so no allowance is given.

[c] Groundwater/Stormwater Daily Maximum $BOD_5$ = 280(1 - 0.95) = 14 mg/L

[d] Total Mass Limits = [Process Flow (210 gpm)][Process Concentration (mg/L)] + [Groundwater/Stormwater Flow (190 gpm)][Groundwater/Stormwater Concentration (mg/L)]

**Table 17: Calculation of technology-based effluent limitations**

| Parameter | Process Flow Rate | | | Avg. ground water conc. (mg/L) | Max. Daily (mg/L) | Max. Daily (lb/day) | Avg. Monthly | |
|---|---|---|---|---|---|---|---|---|
| | 1993 | 1999 | | | | | | |
| | (gpm) | | (mgd) | | | | (mg/L) | (lb/day) |
| Copper[8] | 27.3 | 37 | 0.054 | 0.01 | 3.38 | 1.54 | 1.45 | 0.67 |
| Nickel[8] | 13.8 | 23 | 0.033 | 0.02 | 3.98 | 1.13 | 1.69 | 0.50 |
| Zinc[8] | 27.3 | 37 | 0.054 | 0.01 | 2.61 | 1.19 | 1.05 | 0.49 |
| Chromium | 0.0 | 0 | 0.000 | | 2.77 | N/A | 1.11 | N/A |
| Cyanide | 0.0 | 0 | 0.000 | | 1.2 | N/A | 0.42 | N/A |
| Lead | 0.0 | 0 | 0.000 | | 0.69 | N/A | 0.32 | N/A |
| Phenol | 340 | 400 | 0.576 | N/A | 0.026 | 0.125 | 0.015 | 0.072 |
| Toluene | 340 | 400 | 0.576 | N/A | 0.080 | 0.384 | 0.026 | 0.125 |
| Benzene | 340 | 400 | 0.576 | N/A | 0.136 | 0.653 | 0.037 | 0.178 |
| Ethylbenzene | 340 | 400 | 0.576 | N/A | 0.108 | 0.519 | 0.032 | 0.154 |
| Bis (2-ethylhexyl) phthalate | 340 | 400 | 0.576 | N/A | 0.279 | 1.340 | 0.103 | 0.495 |
| Fluorene | 340 | 400 | 0.576 | N/A | 0.059 | 0.283 | 0.022 | 0.106 |
| Naphthalene | 340 | 400 | 0.576 | N/A | 0.059 | 0.283 | 0.022 | 0.106 |
| Acenaphthene | 340 | 400 | 0.576 | N/A | 0.059 | 0.283 | 0.022 | 0.106 |
| Acrylonitrile | 340 | 400 | 0.576 | N/A | 0.242 | 1.163 | 0.096 | 0.461 |
| Carbon Tetrachloride | 340 | 400 | 0.576 | N/A | 0.038 | 0.183 | 0.018 | 0.086 |
| Chlorobenzene | 340 | 400 | 0.576 | N/A | 0.028 | 0.135 | 0.015 | 0.072 |
| 1,2,4-Trichlorobenzene | 340 | 400 | 0.576 | N/A | 0.140 | 0.673 | 0.068 | 0.327 |
| Hexachlorobenzene | 340 | 400 | 0.576 | N/A | 0.028 | 0.135 | 0.015 | 0.072 |
| 1,2-Dichloroethane | 340 | 400 | 0.576 | N/A | 0.211 | 1.014 | 0.068 | 0.327 |
| 1,1,1-Trichloroethane | 340 | 400 | 0.576 | N/A | 0.054 | 0.259 | 0.021 | 0.101 |
| Hexachloroethane | 340 | 400 | 0.576 | N/A | 0.054 | 0.259 | 0.021 | 0.101 |
| 1,1-Dichloroethane | 340 | 400 | 0.576 | N/A | 0.059 | 0.283 | 0.022 | 0.106 |
| 1,1,2-Trichloroethane | 340 | 400 | 0.576 | N/A | 0.054 | 0.259 | 0.021 | 0.101 |
| Chloroethane | 340 | 400 | 0.576 | N/A | 0.268 | 1.287 | 0.104 | 0.500 |
| Chloroform | 340 | 400 | 0.576 | N/A | 0.046 | 0.221 | 0.021 | 0.101 |
| 2-Chlorophenol | 340 | 400 | 0.576 | N/A | 0.098 | 0.471 | 0.031 | 0.149 |
| 1,2-Dichlorobenzene | 340 | 400 | 0.576 | N/A | 0.163 | 0.783 | 0.077 | 0.370 |
| 1,3-Dichlorobenzene | 340 | 400 | 0.576 | N/A | 0.044 | 0.211 | 0.031 | 0.149 |
| 1,4-Dichlorobenzene | 340 | 400 | 0.576 | N/A | 0.028 | 0.135 | 0.015 | 0.072 |
| 1,1-Dichloroethylene | 340 | 400 | 0.576 | N/A | 0.025 | 0.120 | 0.016 | 0.077 |
| 1,2-trans-Dichloroethylene | 340 | 400 | 0.576 | N/A | 0.054 | 0.259 | 0.021 | 0.101 |
| 2,4-Dichlorophenol | 340 | 400 | 0.576 | N/A | 0.112 | 0.538 | 0.039 | 0.187 |
| 1,2-Dichloropropane | 340 | 400 | 0.576 | N/A | 0.230 | 1.105 | 0.153 | 0.735 |
| 1,3-Dichloropropylene | 340 | 400 | 0.576 | N/A | 0.044 | 0.211 | 0.029 | 0.139 |
| 2,4-Dimethylphenol | 340 | 400 | 0.576 | N/A | 0.036 | 0.173 | 0.018 | 0.086 |
| 2,4-Dinitrotoluene | 340 | 400 | 0.576 | N/A | 0.285 | 1.369 | 0.113 | 0.543 |
| 2,6-Dinitrotoluene | 340 | 400 | 0.576 | N/A | 0.641 | 3.079 | 0.255 | 1.225 |
| Fluoranthene | 340 | 400 | 0.576 | N/A | 0.068 | 0.327 | 0.025 | 0.120 |

[8] Process Flow Rates for metal bearing streams (copper, nickel, and zinc) are increased in proportion to production increases.

**Table 17: Calculation of technology-based effluent limitations**

| Parameter | Process Flow Rate | | | Avg. ground water conc. (mg/L) | Max. Daily (mg/L) | Max. Daily (lb/day) | Avg. Monthly | |
|---|---|---|---|---|---|---|---|---|
| | 1993 | 1999 | | | | | | |
| | (gpm) | | (mgd) | | | | (mg/L) | (lb/day) |
| Methylene Chloride | 340 | 400 | 0.576 | N/A | 0.089 | 0.428 | 0.040 | 0.192 |
| Methyl Chloride | 340 | 400 | 0.576 | N/A | 0.190 | 0.913 | 0.086 | 0.413 |
| Hexachlorobutadiene | 340 | 400 | 0.576 | N/A | 0.049 | 0.235 | 0.020 | 0.096 |
| Nitrobenzene | 340 | 400 | 0.576 | N/A | 0.068 | 0.327 | 0.027 | 0.130 |
| 2-Nitrophenol | 340 | 400 | 0.576 | N/A | 0.069 | 0.331 | 0.041 | 0.197 |
| 4-Nitrophenol | 340 | 400 | 0.576 | N/A | 0.124 | 0.596 | 0.072 | 0.346 |
| 2,4-Dinitrophenol | 340 | 400 | 0.576 | N/A | 0.123 | 0.591 | 0.071 | 0.341 |
| 4,6-Dinitro-o-cresol | 340 | 400 | 0.576 | N/A | 0.277 | 1.331 | 0.078 | 0.375 |
| Di-n-butyl phthalate | 340 | 400 | 0.576 | N/A | 0.057 | 0.274 | 0.027 | 0.130 |
| Diethyl phthalate | 340 | 400 | 0.576 | N/A | 0.203 | 0.975 | 0.081 | 0.389 |
| Dimethyl phthalate | 340 | 400 | 0.576 | N/A | 0.047 | 0.226 | 0.019 | 0.091 |
| Benzo(a)anthracene | 340 | 400 | 0.576 | N/A | 0.059 | 0.283 | 0.022 | 0.106 |
| Benzo(a)pyrene | 340 | 400 | 0.576 | N/A | 0.061 | 0.293 | 0.023 | 0.110 |
| 3,4-Benzofluoranthene | 340 | 400 | 0.576 | N/A | 0.061 | 0.293 | 0.023 | 0.110 |
| Benzo(k)fluoranthene | 340 | 400 | 0.576 | N/A | 0.059 | 0.283 | 0.022 | 0.106 |
| Chrysene | 340 | 400 | 0.576 | N/A | 0.059 | 0.283 | 0.022 | 0.106 |
| Acenaphthylene | 340 | 400 | 0.576 | N/A | 0.059 | 0.283 | 0.022 | 0.106 |
| Anthracene | 340 | 400 | 0.576 | N/A | 0.059 | 0.283 | 0.022 | 0.106 |
| Phenanthrene | 340 | 400 | 0.576 | N/A | 0.059 | 0.283 | 0.022 | 0.106 |
| Pyrene | 340 | 400 | 0.576 | N/A | 0.067 | 0.322 | 0.025 | 0.120 |
| Tetrachloroethylene | 340 | 400 | 0.576 | N/A | 0.056 | 0.269 | 0.022 | 0.106 |
| Trichloroethylene | 340 | 400 | 0.576 | N/A | 0.054 | 0.259 | 0.021 | 0.101 |
| Vinyl Chloride | 340 | 400 | 0.576 | N/A | 0.268 | 1.287 | 0.104 | 0.500 |

**Table 18 Performance-based effluent limits for bis (2-ethylhexyl) phthalate**

| µg/L | ng/L | ln | *Descriptive statistics* | | LOGNORMAL TRANSFORMED MEAN | 7 |
|---|---|---|---|---|---|---|
| 0.5 | 500 | 6.2 | | | LOGNORMAL TRANSFORMED VARIANCE | 0 |
| 0.5 | 500 | 6.2 | Mean | 6.95 | NUMBER OF SAMPLES/MONTH FOR COMPLIANCE MONITORING | 1 |
| 0.5 | 500 | 6.2 | Standard Error | 0.14 | AUTOCORRELATION FACTOR( ne)(USE 0 IF UNKNOWN) | 0 |

**Table 18 Performance-based effluent limits for bis (2-ethylhexyl) phthalate**

| µg/L | ng/L | ln | *Descriptive statistics* | | LOGNORMAL TRANSFORMED MEAN | 7 |
|---|---|---|---|---|---|---|
| 0.5 | 500 | 6.2 | Median | 6.91 | E(X) = | 1287 |
| 0.5 | 500 | 6.2 | Mode | 6.21 | V(X) = | 865332 |
| 0.5 | 500 | 6.2 | Standard Deviation | 0.65 | VARn | 0 |
| 0.5 | 500 | 6.2 | Sample Variance | 0.42 | MEANn= | 7 |
| 0.8 | 800 | 6.7 | Kurtosis | -1.68 | VAR(Xn)= | 865332 |
| 1.0 | 1000 | 6.9 | Skewness | 0.07 | | 3031 |
| 1.0 | 1000 | 6.9 | Range | 1.61 | | 2818 |
| 1.0 | 1000 | 6.9 | Minimum | 6.21 | MAXIMUM DAILY EFFLUENT LIMIT (ng/L) | 4712 |
| 1.0 | 1000 | 6.9 | Maximum | 7.82 | AVERAGE MONTHLY EFFLUENT LIMIT (ng/L) | 3031 |
| 1.5 | 1500 | 7.3 | Sum | 139.01 | | |
| 2.0 | 2000 | 7.6 | Count | 20.00 | | |
| 2.0 | 2000 | 7.6 | Confidence Level(95.0%) | 0.30 | | |
| 2.0 | 2000 | 7.6 | | | | |
| 2.0 | 2000 | 7.6 | | | | |
| 2.5 | 2500 | 7.8 | | | | |
| 2.5 | 2500 | 7.8 | | | MAXIMUM DAILY EFFLUENT LIMIT (µg/L) | **5** |
| 2.5 | 2500 | 7.8 | | | AVERAGE MONTHLY EFFLUENT LIMIT (µg/L) | **3** |

**Table 19 Performance-based effluent limits for temperature**

| degrees Celsius | ln | | | | |
|---|---|---|---|---|---|
| 23.3 | 3.1 | *Descriptive statistics* | | LOGNORMAL TRANSFORMED MEAN | 3.5 |
| 23.6 | 3.2 | | | LOGNORMAL TRANSFORMED VARIANCE | 0.0 |

**Table 19 Performance-based effluent limits for temperature**

| degrees Celsius | ln | | | | |
|---|---|---|---|---|---|
| 23.8 | 3.2 | Mean | 3.45 | NUMBER OF SAMPLES/MONTH FOR COMPLIANCE MONITORING | 1.0 |
| 24.3 | 3.2 | Standard Error | 0.02 | AUTOCORRELATION FACTOR( ne)(USE 0 IF UNKNOWN) | 0.0 |
| 24.9 | 3.2 | Median | 3.47 | E(X) = | 32.1 |
| 25.1 | 3.2 | Mode | 3.54 | V(X) = | 27.0 |
| 25.2 | 3.2 | Standard Deviation | 0.16 | VARn | 0.0 |
| 25.3 | 3.2 | Sample Variance | 0.03 | MEANn= | 3.5 |
| 25.5 | 3.2 | Kurtosis | -1.21 | VAR(Xn)= | 27.0 |
| 25.5 | 3.2 | Skewness | -0.29 | | 41.2 |
| 25.8 | 3.3 | Range | 0.58 | | 40.6 |
| 26.1 | 3.3 | Minimum | 3.15 | | |
| 26.4 | 3.3 | Maximum | 3.73 | | |
| 27.0 | 3.3 | Sum | 228.02 | | |
| 27.0 | 3.3 | Count | 66.00 | | |
| 27.3 | 3.3 | Confidence Level(95.0%) | | | |
| 27.4 | 3.3 | | | | |
| 27.5 | 3.3 | | | | |
| 27.8 | 3.3 | | | | |
| 28.5 | 3.3 | | | MAXIMUM DAILY EFFLUENT LIMIT (µg/L) | 46.0 |
| 28.6 | 3.4 | | | AVERAGE MONTHLY EFFLUENT LIMIT (µg/L) | 41.2 |
| 29.5 | 3.4 | | | | |
| 29.6 | 3.4 | | | | |
| 29.9 | 3.4 | | | | |
| 30.0 | 3.4 | | | | |
| 30.0 | 3.4 | | | | |
| 30.1 | 3.4 | | | | |
| 30.6 | 3.4 | | | | |
| 30.6 | 3.4 | | | | |
| 30.7 | 3.4 | | | | |
| 31.0 | 3.4 | | | | |
| 31.2 | 3.4 | | | | |
| 32.2 | 3.5 | | | | |

| **Table 19 Performance-based effluent limits for temperature** | | |
|---|---|---|
| degrees Celsius | ln | |
| 32.3 | 3.5 | |
| 33.3 | 3.5 | |
| 33.7 | 3.5 | |
| 33.9 | 3.5 | |
| 34.1 | 3.5 | |
| 34.1 | 3.5 | |
| 34.6 | 3.5 | |
| 34.6 | 3.5 | |
| 34.6 | 3.5 | |
| 34.8 | 3.5 | |
| 35.5 | 3.6 | |
| 35.6 | 3.6 | |
| 35.8 | 3.6 | |
| 35.9 | 3.6 | |
| 36.7 | 3.6 | |
| 37.0 | 3.6 | |
| 37.1 | 3.6 | |
| 37.2 | 3.6 | |
| 37.2 | 3.6 | |
| 37.2 | 3.6 | |
| 37.4 | 3.6 | |
| 37.4 | 3.6 | |
| 37.5 | 3.6 | |
| 37.5 | 3.6 | |
| 37.7 | 3.6 | |
| 37.8 | 3.6 | |
| 37.8 | 3.6 | |
| 38.3 | 3.6 | |
| 38.3 | 3.6 | |
| 39.1 | 3.7 | |
| 39.1 | 3.7 | |
| 39.6 | 3.7 | |
| 41.5 | 3.7 | |

**Table 20: Calculation Of Ammonia Concentration and Criteria for fresh water. Based on EPA Quality Criteria for Water (EPA 400/5-86-001) and WAC 173-201A.**

| INPUT | |
|---|---|
| 1. Ambient Temperature (degree Celsius; 0<T<30) | 21.5 |
| 2. Ambient pH (6.5<pH<9.0) | 8.60 |
| 3. Acute TCAP (Salmonids present- 20; absent- 25) | 20 |
| 4. Chronic TCAP (Salmonids present- 15; absent- 20) | 15 |
| | |

**Table 20: Calculation Of Ammonia Concentration and Criteria for fresh water. Based on EPA Quality Criteria for Water (EPA 400/5-86-001) and WAC 173-201A.**

| OUTPUT | |
|---|---|
| 1. Intermediate Calculations: | |
| Acute FT | 1.00 |
| Chronic FT | 1.41 |
| FPH | 1.00 |
| RATIO | 14 |
| pKa | 9.35 |
| Fraction Of Total Ammonia Present As Un-ionized | 14.9930% |
| | |
| 2. Un-ionized Ammonia Criteria | |
| Acute (1-hour) Un-ionized Ammonia Criterion (µg $NH_3$/L) | 260.0 |
| Chronic (4-day) Un-ionized Ammonia Criterion (µg $NH_3$/L) | 42.0 |
| | |
| 3. Total Ammonia Criteria: | |
| Acute Total Ammonia Criterion (mg $NH_3$+ $NH_4$/L) | 1.7 |
| Chronic Total Ammonia Criterion (mg $NH_3$+ $NH_4$/L) | 0.3 |
| | |
| 4. Total Ammonia Criteria expressed as Nitrogen: | |
| Acute Ammonia Criterion as mg N | 1.43 |
| Chronic Ammonia Criterion as N | 0.23 |

**Table 21: This spreadsheet calculates the reasonable potential to exceed state water quality standards for a small number of samples. The procedure and calculations are done per the procedure in Technical Support Document for Water Quality-based Toxics Control, U.S. EPA, March 1991 (EPA/505/2-90-001) on page 56.**

| Parameter | Water Quality Standard[1] | | Max concentration at edge of… | | Human Health Criteria | **LIMIT REQUIRED?** | Effluent percentile value | | Max effluent conc. measured (metals as total | Coefficient of Variation | | # of samples | Multiplier | Acute Dilution Factor | Chronic Dilution |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Acute | Chronic | Acute Mixing Zone | Chronic Mixing Zone | | | | | | | | | | | |
| | *µg/L* | *µg/L* | *µg/L* | *µg/L* | | | | *Pn* | *µg/L* | *CV* | *s* | *n* | | | |
| Iron | | 1,000 | | 1.4 | | NO | 0.95 | 0.224 | 250 | 0.60 | 0.55 | 2 | 3.79 | 270 | 678 |
| Cyanide | 22 | 5.2 | 1.97 | 0.78 | | NO | 0.95 | 0.224 | 140 | 0.60 | 0.55 | 2 | 3.79 | 270 | 678 |
| Benzene | 5,300 | | 0.07 | 0.03 | 1.2 | NO | 0.95 | 0.224 | <5 | 0.60 | 0.55 | 2 | 3.79 | 270 | 678 |
| Bis (2-ethylhexyl) phthalate | 940 | 3 | 18.97 | 18.97 | 1.8 | YES | 0.95 | 0.224 | <5 | 0.60 | 0.55 | 2 | 3.79 | 1.0 | 1.0 |
| Copper | 8.51 | 6 | 0.98 | 0.39 | | NO | 0.95 | 0.224 | 70 | 0.60 | 0.55 | 2 | 3.79 | 270 | 678 |
| Ethylbenzene | 32,000 | 430 | 0.07 | 0.03 | 3,100 | NO | 0.95 | 0.224 | <5 | 0.60 | 0.55 | 2 | 3.79 | 270 | 678 |
| Fluorene | | | 0.07 | 0.03 | 1,300 | NO | 0.95 | 0.224 | <5 | 0.60 | 0.55 | 2 | 3.79 | 270 | 678 |
| Naphthalene | 2300 | 620 | 0.07 | 0.03 | | NO | 0.95 | 0.224 | <5 | 0.60 | 0.55 | 2 | 3.79 | 270 | 678 |
| Nickel | 1,115 | 123.8 | 0.37 | 0.15 | 610 | NO | 0.95 | 0.224 | 26 | 0.60 | 0.55 | 2 | 3.79 | 270 | 678 |
| Phenol | 10,200 | 2560 | 0.01 | 0.01 | 21,000 | NO | 0.95 | 0.224 | <1 | 0.60 | 0.55 | 2 | 3.79 | 270 | 678 |
| Toluene | 17,500 | | 0.07 | 0.03 | 6,800 | NO | 0.95 | 0.224 | <5 | 0.60 | 0.55 | 2 | 3.79 | 270 | 678 |
| Zinc | 90.1 | 82.27 | 0.08 | 0.03 | | NO | 0.95 | 0.224 | <5.8 | 0.60 | 0.55 | 2 | 3.79 | 270 | 678 |
| Methylene Chloride | | | 0.014 | 0.01 | 4.7 | NO | 0.95 | 0.224 | 0.97 | 0.60 | 0.55 | 2 | 3.79 | 270 | 678 |
| Manganese | | | 0.22 | 0.09 | 50 | NO | 0.95 | 0.224 | 16 | 0.60 | 0.55 | 2 | 3.79 | 270 | 678 |
| Ammonia | 1425 | 230 | 365.43 | 145.52 | | NO | 0.95 | 0.224 | 26,000 | 0.60 | 0.55 | 2 | 3.79 | 270 | 678 |

[1] WAC 173-201A, 40 CFR 131 and EPA Gold Book

**Table 22: Noveon Kalama, Inc. Acute WET[1]Test Results as % Survival in 100 % Effluent**

| Lab | Test | Species | Sample Date | Test Date | Protocol | Duration | % Survival |
|---|---|---|---|---|---|---|---|
| WAPTL | AQTX0205 | Fathead Minnow | 5/2/1994 | 5/3/1994 | EPAA 91 | 96 hours | 0 |
| WAPTL | KJOH648 | Fathead Minnow | 7/11/1994 | 7/12/1994 | EPAA 91 | 96 hours | 57.5 |
| WAPTL | AQTX0757 | *Ceriodaphnia dubia* | 4/15/1996 | 4/16/1996 | EPAA 91 | 48 hours | 100 |
| WAPTL | AQTX0760 | Fathead Minnow | 4/15/1996 | 4/16/1996 | EPAA 91 | 96 hours | 100 |
| WAPTL | AQTX0770 | *Ceriodaphnia dubia* | 5/22/1996 | 5/23/1996 | EPAA 91 | 48 hours | 100 |
| WAPTL | AQTX0767 | Fathead Minnow | 5/22/1996 | 5/23/1996 | EPAA 91 | 96 hours | 95 |
| WAPTL | AQTX0824 | *Ceriodaphnia dubia* | 6/17/1996 | 6/18/1996 | EPAA 91 | 48 hours | 95 |
| WAPTL | AQTX0822 | Fathead Minnow | 6/17/1996 | 6/18/1996 | EPAA 91 | 96 hours | 97.5 |
| WAPTL | AQTX0844 | *Ceriodaphnia dubia* | 7/1/1996 | 7/2/1996 | EPAA 91 | 48 hours | 100 |
| WAPTL | AQTX0845 | Fathead Minnow | 7/1/1996 | 7/2/1996 | EPAA 91 | 96 hours | 80 |
| WAPTL | AQTX0874 | *Ceriodaphnia dubia* | 8/5/1996 | 8/6/1996 | EPAA 91 | 48 hours | 100 |
| WAPTL | AQTX0873 | Fathead Minnow | 8/5/1996 | 8/6/1996 | EPAA 91 | 96 hours | 95 |
| WAPTL | AQTX0894 | *Ceriodaphnia dubia* | 9/16/1996 | 9/17/1996 | EPAA 91 | 48 hours | 100 |
| WAPTL | AQTX0893 | Fathead Minnow | 9/16/1996 | 9/17/1996 | EPAA 91 | 96 hours | 100 |
| WAPTL | AQTX0923 | *Ceriodaphnia dubia* | 10/7/1996 | 10/8/1996 | EPAA 91 | 48 hours | 85 |
| WAPTL | AQTX0924 | Fathead Minnow | 10/7/1996 | 10/8/1996 | EPAA 91 | 96 hours | 100 |
| WAPTL | AQTX0979 | Fathead Minnow | 11/4/1996 | 11/5/1996 | EPAA 91 | 96 hours | 75 |
| WAPTL | AQTX0978 | *Ceriodaphnia dubia* | 11/6/1996 | 11/7/1996 | EPAA 91 | 48 hours | 100 |
| WAPTL | AQTX1170 | *Ceriodaphnia dubia* | 12/2/1996 | 12/3/1996 | EPAA 91 | 48 hours | 100 |
| WAPTL | AQTX1171 | Fathead Minnow | 12/2/1996 | 12/3/1996 | EPAA 91 | 96 hours | 92.5 |
| WAPTL | AQTX1168 | *Ceriodaphnia dubia* | 1/6/1997 | 1/7/1997 | EPAA 91 | 48 hours | 100 |
| WAPTL | AQTX1167 | Fathead Minnow | 1/6/1997 | 1/7/1997 | EPAA 91 | 96 hours | 100 |
| WAPTL | AQTX1164 | *Ceriodaphnia dubia* | 2/10/1997 | 2/11/1997 | EPAA 91 | 48 hours | 100 |
| WAPTL | AQTX1163 | Fathead Minnow | 2/10/1997 | 2/11/1997 | EPAA 91 | 96 hours | 95 |
| WAPTL | AQTX1134 | *Ceriodaphnia dubia* | 3/3/1997 | 3/4/1997 | EPAA 91 | 48 hours | 95 |
| WAPTL | AQTX1135 | Fathead Minnow | 3/3/1997 | 3/4/1997 | EPAA 91 | 96 hours | 100 |
| WAPTL | AQTX1138 | Fathead Minnow | 3/5/1997 | 3/6/1997 | EPAA 91 | 96 hours | 100 |
| WAPTL | AQTX1138UV | Fathead Minnow | 3/5/1997 | 3/6/1997 | EPAA 91 | 96 hours | 100 |
| WAPTL | AQTX1177 | Fathead Minnow | 4/7/1997 | 4/8/1997 | EPAA 91 | 96 hours | 98.8 |
| WAPTL | AQTX1177UV | Fathead Minnow | 4/7/1997 | 4/8/1997 | EPAA 91 | 96 hours | 100 |
| WAPTL | AQTX1280 | Fathead Minnow | 4/7/1997 | 4/8/1997 | EPAA 91 | 96 hours | 98.8 |
| WAPTL | AQTX1280UV | Fathead Minnow | 4/7/1997 | 4/8/1997 | EPAA 91 | 96 hours | 100 |
| WAPTL | AQTX1139 | Fathead Minnow | 5/5/1997 | 5/6/1997 | EPAA 91 | 96 hours | 92.5 |
| WAPTL | AQTX1139UV | Fathead Minnow | 5/5/1997 | 5/6/1997 | EPAA 91 | 96 hours | 100 |
| WAPTL | AQTX1231 | Fathead Minnow | 5/5/1997 | 5/6/1997 | EPAA 91 | 96 hours | 92.5 |
| WAPTL | AQTX1231UV | Fathead Minnow | 5/5/1997 | 5/6/1997 | EPAA 91 | 96 hours | 100 |
| WAPTL | AQTX1285 | Fathead Minnow | 6/18/1997 | 6/19/1997 | EPAA 91 | 96 hours | 97.5 |
| WAPTL | AQTX1285UV | Fathead Minnow | 6/18/1997 | 6/19/1997 | EPAA 91 | 96 hours | 98.8 |
| WAPTL | AQTX1474 | Fathead Minnow | 7/9/1997 | 7/10/1997 | EPAA 91 | 96 hours | 100 |
| WAPTL | AQTX1474UV | Fathead Minnow | 7/9/1997 | 7/10/1997 | EPAA 91 | 96 hours | 98.8 |
| WAPTL | AQTX1473 | Fathead Minnow | 8/5/1997 | 8/6/1997 | EPAA 91 | 96 hours | 98.8 |
| WAPTL | AQTX1473UV | Fathead Minnow | 8/6/1997 | 8/6/1997 | EPAA 91 | 96 hours | 100 |

**Table 22: Noveon Kalama, Inc. Acute WET[1]Test Results as % Survival in 100 % Effluent**

| Lab | Test | Species | Sample Date | Test Date | Protocol | Duration | % Survival |
|---|---|---|---|---|---|---|---|
| WAPTL | AQTX1472 | Fathead Minnow | 9/9/1997 | 9/10/1997 | EPAA 91 | 96 hours | 100 |
| WAPTL | AQTX1472UV | Fathead Minnow | 9/9/1997 | 9/10/1997 | EPAA 91 | 96 hours | 100 |
| WAPTL | AQTX1571 | Fathead Minnow | 12/8/1997 | 12/9/1997 | EPAA 91 | 96 hours | 97.5 |
| WAPTL | AQTX1571UV | Fathead Minnow | 12/8/1997 | 12/9/1997 | EPAA 91 | 96 hours | 98.8 |
| WAPTL | AQTX1674 | Fathead Minnow | 1/5/1998 | 1/6/1998 | EPAA 91 | 96 hours | 100 |
| WAPTL | AQTX1674UV | Fathead Minnow | 1/5/1998 | 1/6/1998 | EPAA 91 | 96 hours | 97.5 |
| WAPTL | AQTX1790 | Fathead Minnow | 4/6/1998 | 4/7/1998 | EPAA 91 | 96 hours | 97.5 |
| WAPTL | AQTX1790UV | Fathead Minnow | 4/6/1998 | 4/7/1998 | EPAA 91 | 96 hours | 100 |

**Table 23 Noveon Kalama, Inc. Chronic WET[1] Test Results as NOEC[2]/LOEC[3] in % Effluent**

| Test | Species | Sample Date | Test Date | Protocol | End Point | NOEC | LOEC |
|---|---|---|---|---|---|---|---|
| AQTX0758 | *Ceriodaphnia dubia* | 4/15/1996 | 4/16/1996 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Reproduction | 100 | > 100 |
| AQTX0759 | Fathead Minnow | 4/15/1996 | 4/16/1996 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Mean Biomass | 100 | > 100 |
| | | | | | Mean Weight | 100 | > 100 |
| AQTX0769 | *Ceriodaphnia dubia* | 5/20/1996 | 5/21/1996 | EPAF 94 | 7d Proportion Survived | 50 | 100 |
| | | | | | Reproduction | 50 | > 50 |
| AQTX0768 | Fathead Minnow | 5/20/1996 | 5/21/1996 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Mean Biomass | 100 | > 100 |
| | | | | | Mean Weight | 100 | > 100 |
| AQTX0821 | *Ceriodaphnia dubia* | 6/17/1996 | 6/18/1996 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Reproduction | 25 | 50 |
| AQTX0823 | Fathead Minnow | 6/17/1996 | 6/18/1996 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Mean Weight | 100 | > 100 |
| | | | | | Mean Biomass | 100 | > 100 |
| AQTX0846 | Fathead Minnow | 7/1/1996 | 7/2/1996 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Mean Biomass | 100 | > 100 |
| | | | | | Mean Weight | 100 | > 100 |
| AQTX0847 | *Ceriodaphnia dubia* | 7/10/1996 | 7/11/1996 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Reproduction | 100 | > 100 |
| AQTX0875 | Fathead Minnow | 8/5/1996 | 8/6/1996 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Mean Weight | 100 | > 100 |
| | | | | | Mean Biomass | 100 | > 100 |
| AQTX0876 | *Ceriodaphnia dubia* | 8/14/1996 | 8/15/1996 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Reproduction[9] | < 5 | 5 |
| AQTX0892 | *Ceriodaphnia dubia* | 9/16/1996 | 9/17/1996 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Reproduction | 100 | > 100 |
| AQTX0891 | Fathead Minnow | 9/16/1996 | 9/17/1996 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Mean Weight | 100 | > 100 |
| | | | | | Mean Biomass | 100 | > 100 |

[9] Anomalous - do not use

**Table 23 Noveon Kalama, Inc. Chronic WET[1] Test Results as NOEC[2]/LOEC[3] in % Effluent**

| Test | Species | Sample Date | Test Date | Protocol | End Point | NOEC | LOEC |
|---|---|---|---|---|---|---|---|
| AQTX0926 | Fathead Minnow | 10/7/1996 | 10/8/1996 | EPAF 94 | 7d Proportion Survived | 50 | 100 |
| | | | | | Mean Weight | 100 | > 100 |
| | | | | | Mean Biomass | 50 | 100 |
| AQTX0925 | *Ceriodaphnia dubia* | 10/21/1996 | 10/22/96 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Reproduction | 25 | 50 |
| AQTX0977 | *Ceriodaphnia dubia* | 11/4/1996 | 11/5/1996 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Reproduction | 100 | > 100 |
| AQTX0976 | Fathead Minnow | 11/4/1996 | 11/5/1996 | EPAF 94 | 7d Proportion Survived | 50 | 100 |
| | | | | | Mean Biomass | 100 | > 100 |
| | | | | | Mean Weight | 100 | > 100 |
| AQTX1172 | *Ceriodaphnia dubia* | 12/2/1996 | 12/3/1996 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Reproduction | 100 | > 100 |
| AQTX1173 | Fathead Minnow | 12/2/1996 | 12/3/1996 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Mean Biomass | 100 | > 100 |
| | | | | | Mean Weight | 100 | > 100 |
| AQTX1166 | *Ceriodaphnia dubia* | 1/6/1997 | 1/7/1997 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Reproduction | 100 | > 100 |
| AQTX1169 | Fathead Minnow | 1/6/1997 | 1/7/1997 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Mean Biomass | 100 | > 100 |
| | | | | | Mean Weight | 100 | > 100 |
| AQTX1162 | *Ceriodaphnia dubia* | 2/10/1997 | 2/11/1997 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Reproduction | 100 | > 100 |
| AQTX1165 | Fathead Minnow | 2/10/1997 | 2/11/1997 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Mean Biomass | 100 | > 100 |
| | | | | | Mean Weight | 100 | > 100 |
| AQTX1136 | Fathead Minnow | 3/3/1997 | 3/4/1997 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Mean Biomass | 100 | > 100 |
| | | | | | Mean Weight | 100 | > 100 |
| AQTX1137 | *Ceriodaphnia dubia* | 3/17/1997 | 3/18/1997 | EPAF 94 | 7d Proportion Survived | 100 | > 100 |
| | | | | | Reproduction | 100 | > 100 |

## APPENDIX D--RESPONSE TO COMMENTS

The Department of Ecology (Ecology) has received comments on the draft NPDES permit[10] from Gregory S. Conn, Health, Safety & Environmental Manager, Noveon Kalama, Inc. on March 21, 2002. The following is a list of the received comments and Ecology response:

**Noveon:**

*1. In keeping with Ecology's cycle for the Columbia River Gorge Water Quality Management Area, Ecology should reissue a five-year Permit between July 1, 2002 and June 30, 2003, and allow Kalama to operate under the current Permit until Ecology issues the new Permit.*

The expiration date of the draft Permit is listed as June 30, 2003. We understand that Ecology currently is renewing permits on a five-year cycle by Water Quality Management Areas or Basins, and that Kalama is located in the Columbia River Gorge Water Quality Management Area (Basin 5). We also understand that this means that Kalama's Permit is scheduled for permit renewal sometime between July 1, 2002 and June 30, 2003. Ecology has explained to us that, in order to reissue our current Permit during the "next basin year," Ecology will need to reissue our current permit with an expiration date of June 30, 2003.

Kalama does not understand why it is necessary to reissue this permit for – at most – slightly over one year. Since we already are scheduled for permit renewal beginning on July 1, 2002, it seems to make much more sense either to: (1) wait to reissue the current Permit until July 1, 2002 – which is only four months from now – and at that time reissue the Permit for a five-year term; or (2) not reissue the Permit at this time, and allow Kalama to operate under its current Permit until June 30, 2003, at which time Ecology would renew Kalama's Permit. Either way, Ecology could save the interim, and seemingly unnecessary, step of issuing and having Kalama operate under a one-year Permit, which contains different provisions from its current Permit, and likely will contain additional different provisions from its next five-year Permit. Either option would give Kalama and Ecology the opportunity to focus on developing a Permit with more appropriate, meaningful and consistent terms. Kalama believes that Ecology's current plan to issue a one-year Permit unnecessarily complicates matters for both Ecology and the facility.

**Ecology:**

Ecology is currently renewing permits on a five-year cycle by Water Quality Management Areas (Basins). Noveon is located in the Columbia River Gorge Water Quality Management Area (Basin 5) and is scheduled for permit renewal in the period July 1, 2002 through June 30, 2003.

**Action taken:**

To accommodate Noveon's request and Ecology's basin approach for permit renewals, Noveon's permit is issued for five years with the effective date of June 30, 2003, and the expiration date of June 30, 2008.

**Noveon:**

*2. The Permit should contain permit obligations and deadlines that are consistent with a five-year term.*

Kalama is confused by many of the deadlines specified in the draft Permit, given the fact that the draft Permit will be in place – at most – for a little over one year. Some of the submittal dates in the draft Permit fall after

[10] Please note that Kalama's comments on the specific provisions of the draft Permit also apply to the corresponding discussions in the draft Fact Sheet.

the expiration of the Permit. Specifically, Section S.6.G.2. requires a Pollution Prevention Plan Progress Report within two years of the Permit effective date. Similarly, Section S.9.C. requires Acute Toxicity Compliance Monitoring Reports within 545 days of the Permit effective date. Section S.10.C. requires Chronic Toxicity Compliance Monitoring Reports within 545 days of the Permit effective date. All three of these obligations fall beyond the expiration date of the Permit. In addition, Section S.6.A.2 requires Phase II of the Pollution Prevention Plan to be submitted within 360 days of the Permit effective date, and this date potentially falls after the expiration of the Permit.

**Ecology:**

See response to comment #1.

**Action taken:**

Ecology issues the permit for five years. The permit has obligations and deadlines that are consistent with a five-year term.

**Noveon:**

*3. The Permit should not specify a performance-based effluent limit for bis (2-ethylhexyl) phthalate.*

Section S.1 of the draft Permit sets a maximum daily effluent limit of 5 ppb and an average monthly effluent limit of 3 ppb for bis (2-ethylhexyl) phthalate at Outfall 002. Kalama believes that a performance-based effluent limit for bis (2-ethylhexyl) phthalate at Outfall 002 is not appropriate. As an initial concern, bis (2-ethylhexyl) phthalate is a common lab contaminant, and with such an extremely low effluent limit, there is a significant potential for false positive results.

In addition, on page 14 of the draft Fact Sheet, Ecology states that the technology-based limitation of 1.340 pounds per day/maximum and 0.495 pounds per day/average are considered "AKART," or "all known available and reasonable methods of treatment." Then, on pages 15-16 of the draft Fact Sheet, Ecology states that its proposed performance-based effluent limits of 5 ppb/3ppb are considered AKART. We do not understand how both limitations can be considered AKART. According to the regulations:

> …AKART shall represent the most current methodology that can be reasonably required for preventing, controlling and abating the pollutants associated with a discharge …

The AKART standard clearly does not require numerical effluent limits that are derived from a facility's historical performance. See, e.g., Puget Soundkeeper Alliance v. Department of Ecology, PCHB No. 98-050 (April 15, 1999). Because the 1.340 pounds per day/maximum 0.495 pounds per day/average limit (which translates to a limit of 278 ppb maximum and 103 ppb average at the design flow of 400 gallons per minute) is considered to be AKART, we request that this limit be reinstated as the effluent limit for bis (2-ethylhexyl) phthalate at Outfall 002.

**Ecology:**

The comment has been reviewed and acknowledged. During reviewing the comment it was noticed that the Columbia River was listed on the 303(d) list for bis (2-ethylhexyl) phthalate based on a single excursion. According to the Water Quality Program policy for listing a single excursion beyond the criterion does not meet the policy for listing.

**Action taken:**

The performance-based effluent limits for the bis (2-ethylhexyl) phthalate are substituted by limits derived base on 40 CFR Part 414.

**Noveon:**

*4. The toluene monitoring requirement at Outfall 001 should be reduced from weekly to monthly after the first six months of the Permit term, and then to quarterly for the remainder of the Permit term.*

*Section S.2 of the draft Permit requires weekly testing of toluene at Outfall 001. Kalama has stated in previous communications that we do not object to the inclusion of a toluene monitoring requirement at Outfall 001. However, Kalama also has stated previously that we would like the Permit to specify that, if Kalama meets the toluene effluent limitation for the first six months, the sampling frequency will be reduced from weekly to monthly for the next six months, and then to quarterly for the remainder of the Permit.*

Ecology has indicated that this is an issue that we can revisit the next time our Permit is up for renewal (between July 1, 2002 and June 30, 2003). Because Kalama expects to be able to demonstrate that we meet the toluene effluent limitation, we see little point in reissuing the current Permit with a provision that is very likely to change in one year. Therefore, we reiterate our request that Ecology consider the toluene monitoring issue now, in connection with reissuing the Permit sometime between July 1, 2002 and June 30, 2003 and that, in the meantime, Kalama be allowed to operate under the monitoring conditions contained in its current Permit.

**Ecology:**

Justification for the monitoring requirements for toluene at Outfall 001 is described in the fact sheet. However, since the permit issuance term is changed to five years as a result the toluene monitoring requirement at Outfall 001 is adjusted to reflect the longer issuance term.

**Action taken:**

The frequency of toluene monitoring requirement at Outfall 001 is changed to monthly.

**Noveon:**

*5. The Permit should require quarterly monitoring for PCB-1254 and arsenic for the first year of the Permit term only.*

Section S.2 requires monitoring of PCB-1254 and arsenic at Outfall 001. As Kalama explained previously, in October 2000, on the Form 2C submitted by Kalama for our current Permit, PCB-1254 was not detected with a detection limit of 0.067 ppb. We also reported "non-detect" for arsenic at Outfall 002 (prior to combining with non-contact cooling water at Outfall 001) with a detection limit of 100 ppb. Ecology requested that we re-analyze for arsenic in Outfall 002 with a detection limit of 1 ppb. We did so in November 2000, and reported arsenic at 1 ppb, which was right at the detection limit. Because of this, Kalama continues to believe that the draft Permit should be revised to require no testing for either parameter at Outfall 001. However, as we stated previously, we recognize that Ecology apparently is seeking data to establish TMDLs for the Columbia River, and therefore, we proposed to conduct quarterly sampling for both PCB-1254 and arsenic at Outfall 001 for the first year of the Permit only.

Ecology has indicated that this is an issue that we can revisit the next time our Permit is up for renewal (between July 1, 2002 and June 30, 2003). Because Kalama expects that its discharge will continue to be "non-detect" for both PCB-1254 and arsenic, we see little point in reissuing the current Permit with a provision that appears likely to change in one year. Therefore, we reiterate our request that Ecology consider the PCB-1254 and arsenic monitoring issues now, in connection with reissuing the Permit sometime between July 1, 2002 and June 30, 2003 and that, in the meantime, Kalama be allowed to operate under the monitoring conditions contained in its current Permit.

**Ecology:**

Justification for the monitoring requirements for PCB-1254 and arsenic at Outfall 001 is described in the fact sheet. However, since the permit issuance term is changed to five years as a result the arsenic monitoring requirement at Outfall 001 is adjusted to reflect the longer issuance term.

**Action taken:**

The frequency of arsenic monitoring requirement at Outfall 001 is changed to quarterly.

**Noveon:**

*6. Monitoring requirements for arsenic and PCB-1254 in receiving water should be deleted.*

Section S.2 requires monthly monitoring for arsenic in the receiving water and quarterly monitoring for PCB-1254 in the receiving water. As we commented previously, Kalama does not agree that any sampling of the receiving water should be required in our NPDES Permit. Also, for the reasons stated in Paragraph 5, above, we believe that the monitoring requirements for arsenic and PCB-1254 in the receiving water should be completely eliminated from the Permit. Alternatively, Kalama proposes that we conduct quarterly monitoring at Outfall 001 for PCB-1254 and arsenic for one year (as discussed in Paragraph 5) and, if we detect either arsenic or PCB-1254 in the effluent during that year, we then would conduct quarterly sampling for these parameters in the receiving water.

Ecology has indicated that it would like to revisit this issue the next time Kalama's Permit is up for renewal (i.e., between July 1, 2002 and June 30, 2003). Because Kalama expects that its discharge will continue to be "non-detect" for both PCB-1254 and arsenic, we see little point in sampling the receiving water. Therefore, we reiterate our request that Ecology consider the PCB-1254 and arsenic monitoring issues now, in connection with reissuing the Permit sometime between July 1, 2002 and June 30, 2003 and that, in the meantime, Kalama be allowed to operate under the monitoring conditions contained in its current Permit.

**Ecology:**

Justification for the monitoring requirements for PCB-1254 and arsenic in receiving water is described in the fact sheet. However, since the permit issuance term is changed to five years as a result the arsenic monitoring requirement in receiving water is adjusted to reflect the longer issuance term.

**Action taken:**

The frequency of arsenic monitoring requirement in receiving water is changed to quarterly.

**Noveon:**

*7. Monitoring requirements for bis (2-ethylhexyl) phthalate in receiving water should be deleted or limited.*

Section S.2 also requires monthly monitoring for bis (2-ethylhexyl) phthalate in the receiving water. As stated in Paragraph 6, above, Kalama does not believe that receiving water sampling should be required for any parameter. In previous communications with Ecology, we explained that our analytical work has shown very small amounts of bis (2-ethylhexyl) phthalate in six out of 23 samples at Outfall 002, with a maximum concentration of 2 ppb. By the time the Outfall 002 discharge mixes with the non-contact cooling water at Outfall 001, we would expect bis (2-ethylhexyl) phthalate to be well below the detection limit for that parameter. As noted above, bis (2-ethylhexyl) phthalate is a common lab contaminant, and we anticipate problems analyzing for this compound at these low detection limits. Therefore, we believe that this monitoring requirement should be deleted. If receiving water sampling for bis (2-ethylhexyl) phthalate is retained, however, Kalama believes that it should be of limited duration. Kalama suggests that such sampling be required monthly for the first six months only.

Ecology has indicated that it would like to revisit this issue the next time Kalama's Permit is up for renewal (i.e., between July 1, 2002 and June 30, 2003). Because Kalama expects that its discharge will continue to be well below the detection limit for bis (2-ethylhexyl) phthalate, we see little point in sampling the receiving water. Therefore, we reiterate our request that Ecology consider the bis (2-ethylhexyl) monitoring issues now, in connection with reissuing the Permit sometime between July 1, 2002 and June 30, 2003 and that, in the meantime, Kalama be allowed to operate under the monitoring conditions contained in its current Permit.

**Ecology:**

The comment has been reviewed and acknowledged.

Monitoring requirements for bis (2-ethylhexyl) phthalate in receiving water was included in the permit because the Columbia River was listed on the 303(d) list for bis (2-ethylhexyl) phthalate. However, during the comment review it was noticed that the Columbia River was listed based on a single excursion. According to the Water Quality Program policy for listing a single excursion beyond the criterion does not meet the policy for listing.

**Action taken:**

The frequency of bis (2-ethylhexyl) phthalate monitoring requirement in receiving water is changed to quarterly.

**Noveon:**

*8. Kalama should be allowed to submit the same monthly forms to Ecology and EPA.*

As Kalama commented previously, we do not believe we should be required to fill out separate monthly monitoring forms containing essentially the same information to both EPA and Ecology. Although Ecology has not included a Permit condition to this effect, Ecology has indicated that Kalama is required to submit separate forms to both agencies. Kalama does not see any reason why the two agencies cannot share this information, particularly since Ecology is the permitting authority. Therefore, Kalama requests that it be allowed to complete one monthly form and submit it to Ecology pursuant to Section S.3.

**Ecology:**

During a meeting of April 29, 2002, Ecology was notified that Noveon had solved this issue directly with EPA.

**Action taken:**

No action.

**Noveon:**

*9. The Permit should not specify design criteria as enforceable provisions.*

Section S.5 of the draft Permit specifies design criteria for the facility of (1) 400 gallons/minute peak wastewater flow; and (2) 5,000 pounds maximum per day of biochemical oxygen demand ("$BOD_5$") loading. The draft Fact Sheet explains that these criteria are "in accordance with" WAC 173-220-150(1)(g). The Fact Sheet also indicates that these criteria were "taken from February 1995 engineering report prepared by Parametrix …." as amended by our 1999 addendum. Kalama does not believe that the Permit should specify any design criteria as enforceable limits.

The treatment system and unit capacity are presently regulated by Ecology under WAC 173-240 through an engineering plan review process and by the treatment plant operation and maintenance provision in Paragraph S.4 of the Permit. Taken together, these two provisions allow ample opportunity for Ecology to review our treatment plant operation while, at the same time, providing us with the necessary flexibility to efficiently operate our treatment system.

The influent conditions create significant concern for Kalama by limiting either the peak flow or $BOD_5$ loading to our wastewater treatment plant. At the same time, the Permit also limits our effluent discharge of chemical constituents, including $BOD_5$. Thus, Kalama could be subject to potential enforcement even though the plant effluent meets the proposed effluent limitations.

It is important to note that both the peak flow and $BOD_5$ loading, among other parameters, are used to design a wastewater treatment plant. Exceeding either peak flow or $BOD_5$ loading does not necessarily mean that the plant has exceeded its ability to treat its wastewaters. By having both peak flow and $BOD_5$ loading as individual limits, Ecology is forcing Kalama to consistently operate the wastewater treatment facility below its approved design capabilities in order to assure conformance with these conditions, which ultimately decreases our treatment capacity at the plant.

Kalama has spent considerable effort to optimize our wastewater treatment plant and to operate it as efficiently as possible. Our wastewater treatment plant has an excellent compliance record. We have had zero exceedences on the wastewater treatment plant itself over the last five years, and we run it at almost 100% pollutant removal efficiency. The monthly average in Outfall 002 for $BOD_5$ over the last 5-year permit cycle has never exceeded 5 ppm, yielding an efficiency for $BOD_5$ removal of 99+%. Furthermore, Kalama has not detected any priority pollutant organics in Outfall 002 over the last 5-year permit cycle, except for very small hits (<2 ppb) of bis (2-ethylhexyl) phthalate. In fact, Kalama's treatment system operates so efficiently that Ecology itself has dropped nearly all priority pollutant testing requirements for the facility in the proposed Permit cycle (See Section S.2.E). Given our compliance record and treatment efficiency, we do not understand why Ecology is taking an unnecessarily restrictive approach to regulating our wastewater treatment plant by imposing limitations on the influent.

In addition, placing limits on the design criteria in the Permit means that Ecology is requiring a permit modification every time we want to vary our treatment system operations to maintain compliance with our

effluent limits. Kalama took a very conservative design approach to our wastewater treatment plant in 1995, and we did revise these design limits in the Engineering Addendum in 1999. As we gather operating data, we are confident that our plant can handle more load than as originally designed. Using both engineering and actual operations, Kalama would like to maintain the flexibility to submit data to Ecology demonstrating that the plant can operate at increased capacity without changing the effluent limits during a permit cycle. If design criteria are specified in the Permit, we would be unable to change capacity without a very lengthy permit modification.

Kalama would prefer that the design criteria be completely dropped from the Permit. As a second preference, Kalama would not object to the inclusion of a reference to the design criteria for informational purposes, but we do not believe that design criteria should be included as enforceable limits. If, however, design criteria must be included in the Permit as enforceable limits, Kalama proposes first that Ecology tie together the $BOD_5$ daily limit and/or peak wastewater flow limit with the permit effluent limits, so that any exceedence of the $BOD_5$ 5,000 pounds per day limit or 400 gpm peak flow limit would be considered a violation only if the facility also exceeded a Permit effluent limitation at the same time. If none of these options is acceptable to Ecology, Kalama proposes that both the $BOD_5$ loading limit and the peak flow limit must be exceeded at the same time to constitute a violation.

**Ecology:**

The comment has been reviewed and acknowledged.

**Action taken:**

Noveon's preferred request is granted and the design criteria are removed from the Permit.

**Noveon:**

*10. The Permit should not include a Pollution Prevention Plan requirement.*

Section S.6 of the Permit refers to a Pollution Prevention Plan ("PPP") requirement. Kalama already has strongly objected to the inclusion of a PPP in this Permit. Under the facility's existing PPP, Kalama has implemented several projects that have resulted in a 750,000 pounds per year reduction in toluene waste. Thus, our existing PPP has been an unqualified success. Further, Kalama already has a Stormwater Permit, SO3-000504. As part of its Stormwater Permit, Kalama completed another PPP incorporating Best Management Practices to prevent pollution to stormwater. Thus, Kalama already reviewed potential impacts to stormwater, groundwater and wetlands, and continues to evaluate these potential impacts on a semi-annual basis.

In addition, Kalama's wastewater treatment system operates exceptionally well. We have had no exceedences of our permit limits that reflect our wastewater treatment plant's operations during the entire current Permit term (since March 1, 1996). The one exceedence of our NPDES Permit during the last 5-year Permit cycle was due to a very minor temperature excursion at Outfall 001, which had nothing to do with our wastewater treatment plant operation. This minor temperature exceedence resulted from an abnormal summer power outage. (See page 8 of the draft Fact Sheet). In 1997, Kalama received the Industrial Pollution Control Award in recognition of superior wastewater treatment achieved by an industrial plant from the Pacific Northwest Pollution Control Association ("PNPCA"), a chapter of the Water Environment Federation. In granting this award, the PNPCA uses criteria such as effort and originality required for solution of a problem, results obtained from the effort, impact on the community and attitude of the industry.

The monthly average in Outfall 002 for $BOD_5$ over the last 5-year permit cycle has never exceeded 5 ppm, yielding an efficiency for $BOD_5$ removal of 99+%. Furthermore, Kalama has not detected any priority pollutant organics in Outfall 002 over the last 5-year permit cycle, except for very small hits (<2 ppb) of bis

(2-ethylhexyl) phthalate. In fact, Kalama's treatment system operates so efficiently that Ecology itself has dropped nearly all priority pollutant testing requirements for the facility in the proposed Permit cycle (See Section S.2.E). Given our compliance record, and treatment plant efficiency Kalama does not believe that a third PPP could do anything to improve our wastewater treatment plant operation.

**Ecology:**

The PPP in the NPDES permit will not address the wastewater treatment system operation; it will address ways of moving up the waste hierarchy, and avoid the need for treatment at all, by making process and material changes in the main plant. The NPDES PPP will also address use of water, both in terms of overall quantity and type of use.

**Noveon:**

Further, Kalama is taking voluntary steps to minimize pollution from its facility. We are a member of the American Chemistry Council and we follow the ACC's Responsible Care® Program. We are certified under ISO 14001 and have an active environmental management program.

Over the last ten years, Kalama has spent in excess of four million dollars to reduce air and water emissions. In 2001 alone, Kalama spent over $300,000 on reducing potential leaks and spills in our cooling water system.

Requiring a PPP under this Permit would mean that the facility would have to shift limited resources from implementing its very successful existing PPP to essentially developing a new plan. Although Ecology states that the PPP requirement of the Permit would not duplicate any current PPP planning efforts under WAC 173-307, and that it would be "an additional component" to the PPP that Kalama already has prepared, this simply is not true. The proposed PPP would entail a significant amount of additional and, in our view, unnecessary work to address issues that are covered adequately by existing regulations. Further, this PPP would require a reduction in the generation of wastewater that, in fact, may be less toxic than certain non-wastewater streams. Thus, under this proposed PPP, we may be required to devote our resources to projects that are less environmentally beneficial than we could without this PPP. In addition, requiring a PPP as part of Kalama's Permit is inconsistent with Ecology's previous public statements that ISO 14000 programs can be used instead of PPPs.

**Ecology:**

The NPDES PPP would not require a reduction in the generation of wastewater. This PPP will require an analysis of current water use, wastewater generation, and how pollutants get into the wastewater in the first place. The results of the analysis would be used to determine if there are any opportunities that warrant implementation. This is the same type of analysis already done in Noveon’s P2 plan, and in that plan, spills and air emissions are already considered.

**Noveon:**

By insisting on a PPP in this Permit, Ecology is effectively seeking to modify the pollution prevention regulations at WAC 173-307. We believe that the inclusion of a PPP in this Permit constitutes a rulemaking without due process. Moreover, under Ecology's pollution prevention regulations at WAC 173-307, the design and update of the PPP is supposed to be an ongoing process. It should not be contained within a permit that has, at most, a five-year term. Kalama believes that issues regarding pollution prevention for wastewater, stormwater and waters of the State are more appropriately addressed through a notice-and-comment rulemaking than by incorporating a PPP requirement into Kalama's NPDES Permit.

**Ecology:**

This is a water quality issue. The use of P2 planning as a satisfaction of AKART requirements has legal precedent. Ecology believes that it would be easier for Noveon to complete this plan by using the template of the existing P2 plan. If Noveon wants to separate the two plans, it would be acceptable to Ecology. However, as stated subsequently in Ecology's response to Noveon's comments, it is possible to clearly mark the parts of a combined PPP that would apply to the NPDES permit, and therefore differentiate the two plans for enforcement purposes.

**Noveon:**

In addition to these general objections, Kalama objects to specific provisions of this PPP:

- Under Section S.6.A.1, Ecology has allowed only 180 days from the effective date of the Permit to develop the first phase of the PPP. The first phase must be submitted to Ecology for its approval. Kalama already is required to update its existing PPP every September. Essentially, this means that the facility constantly would be updating various aspects of the PPP. Further, although Ecology must approve of the PPP, the Permit does not specify any time limit for Ecology to do so. In addition, under WAC 173-307, Kalama had two years – not six months – to develop its current PPP.

**Ecology:**

Planners (those facilities in Washington State that are required to complete P2 plans under WAC 173-307) are required to revise their P2 plans whenever a significant change takes place at the facility. The annual progress report is a separate requirement of WAC 173-307. The timing of the NPDES PPP annual progress report submittals can be adjusted to match that of the current P2 plan (or visa versa). However, for submittal of the original NPDES PPP, it is unnecessary to change the current permit conditions. Review of two phases of the NPDES PPP will occur at the time of submittal. A review period can be specified in the permit. Ecology suggests a maximum of four weeks from the date of receipt of the submittal.

**Noveon:**

Section S.6.A.2 provides that Kalama would have 360 days from the effective date of the Permit to submit Phase II of the PPP for Ecology's approval. Again, this means that the facility constantly would be updating its PPP. In addition, since there is no time limit for Ecology's approval of any aspect of the PPP, Kalama likely would not even know whether Ecology approved of Phase I of the PPP before it would need to begin preparations for, and to submit, Phase II.

- Section S.6.A.3 provides that Kalama "shall implement the selected pollution prevention opportunities according to the timeframes specified" in the PPP. This gives the facility no flexibility to implement better, non-wastewater options should they become available. In addition, with the exception of "Stormwater Planning for Industrial Facilities," we have been unable to locate the guidance documents referenced by Ecology for assistance in developing the PPP. The stormwater guidance document does not provide adequate guidance for the development of a PPP. Further, Ecology does not appear to have issued any guidance for developing a wastewater PPP.

**Ecology:**

Selection of opportunities for implementation in the NPDES PPP is based on a thorough technical, economic and risk evaluation and analysis. However, conditions sometimes change, and implementation can be affected. Annual progress reports will contain the observations that may account for changes in implementation. Ecology will review these annual progress reports and determine whether a change in implementation of any opportunities is warranted.

The Hazardous Waste and Toxics Reduction Program at Ecology is currently rewriting the guidance for P2 plans, and a new EPA P2 Guide has just been published. This information will be available on Ecology's P2 web site by the time of issuance of the permit. In addition, Ecology field staff are available to help prepare the plan.

**Noveon:**

- Section S.6.B.2. provides that the PPP shall be modified whenever there is a change in design, construction, operation, or maintenance of the facility that significantly increases the generation of water pollutants, or that causes the PPP to become less effective. This provision limits the ability of the facility to increase production to levels that already are authorized by the Permit.

**Ecology:**

A modified PPP will not prevent Noveon from carrying out changes. The modified PPP requires that Noveon do an analysis of the effects of the changes on water use, wastewater generation, and associated environmental effects, including the total costs of the change. It is assumed that these costs would be taken into effect in any case, but the PPP requires that the analysis be submitted to Ecology for review.

**Noveon:**

- Section S.6.C.2. states that the PPP must include a detailed description of the facility's processes on a process unit basis, and that the facility must review all potential impacts to wastewater, stormwater, groundwater and wetlands. A detailed description of the facility's processes is business confidential information and we cannot include it in a public document. In addition, Kalama currently has 12,000 connections at its facility. There is no feasible way for the facility to review all potential impacts to wastewater, stormwater, groundwater and wetlands within the 180 days specified in Section S.6.A.1. In addition, as noted above, Kalama's Stormwater PPP, prepared pursuant to Stormwater Permit SO3-000504, already incorporates Best Management Practices to prevent pollution to stormwater. Thus, Kalama already reviewed potential impacts to stormwater, groundwater and wetlands, and continues to evaluate these potential impacts on a semi-annual basis.

**Ecology:**

Confidential business information (CBI) issues have been dealt with in the current P2 plan. It is not considered likely that large amounts of additional process information would be necessary to complete the analysis for the NPDES PPP. However, if any CBI is involved in this analysis, it will be protected under current Washington state laws and rules.

Process information such as connections would be reviewed as part of the NPDES PPP, with the possible formulation of opportunities to reduce impacts to water use, wastewater, stormwater and groundwater. If the review of connections, for instance, was on-going, this review would be part of the NPDES PPP. This sort of plant-wide review of process equipment is already part of the current P2 plan, as an on-going activity.

**Noveon:**

- Section S.6.C.3 states that the evaluation of pollution prevention opportunities should consider pollutant loading and toxicity, among other considerations. However, the draft Permit does not provide any guidance on how toxicity is to be evaluated.

**Ecology:**

Toxicity is evaluated by examining MSDSs, other toxicity information, such as national databases, and any other knowledge Noveon may have about each pollutant. This evaluation is already done in the current P2 plan for hazardous materials and hazardous wastes.

**Noveon:**

- Under Section S.6.D., Kalama is required to give preference to proposals that would eliminate or reduce the generation of water pollutants. These types of proposals normally would require process modifications that would take considerable time and cost millions of dollars. It appears that Kalama would be required to implement proposals even if capital was not available. Based upon our company's budget approval process and construction times, there is no way that such requirements could be selected and implemented within the Permit cycle.

**Ecology:**

Only opportunities that are deemed economically feasible will be required to be implemented. Economic feasibility is determined via a total cost analysis, and includes time considerations. Opportunities that cannot be fully implemented in the timeframe of the NPDES permit will be considered during the review period for the next 5-year NPDES permit.

**Noveon:**

- Section S.6.E.1. requires the facility to consider all areas, reasonable activities, and conditions in developing the PPP, including upsets, spills and natural events. The scope of these evaluations is significantly beyond what is required under WAC 173-307. The amount of work involved in this analysis could not possibly be completed within the Permit term.

**Ecology:**

Prevention of upsets and spills, and mitigation of effects from unforeseen events are cornerstones of P2 planning. They are considered in Noveon’s current P2 plan.

**Noveon:**

- Section S.6.F. provides that Kalama "may incorporate applicable portions" of its existing PPP to satisfy the requirements of this PPP. However, once incorporated, Kalama's existing PPP would become an enforceable part of its Permit. Kalama's existing PPP is independently enforceable and there is no reason why it should become an enforceable part of this Permit.

**Ecology:**

Under existing water quality regulations, Ecology can only enforce the portions of the PPP that apply to water quality as part of this NPDES permit. Ecology will work with Noveon to make sure the applicable parts of the PPP, which are enforceable under the NPDES permit, are clearly differentiated.

**Noveon:**

- Section S.6.G.1 requires a periodic evaluation and possible modification of the PPP, but does not provide any time frame for doing so.

**Ecology:**

Evaluation and possible modification to the PPP is dependent on conditions in the marketplace, at the plant, and in the environment. It is the responsibility of Noveon to make sure the NPDES PPP is current, up-to-date and accurate. If Noveon has any question as to the validity of its PPP at any time, it should contact Ecology to determine if PPP modification is necessary.

**Noveon:**

- Section S.6.G.2. requires the facility to complete a progress report at two years of the Permit's effective date and every year thereafter. However, because this Permit has a very limited term (at most, slightly over one year), these provisions are inconsistent with the Permit term.

**Ecology:**

Permit term provisions are addressed in another part of Ecology's response to Noveon's comments.

**Noveon:**

Ecology also asserts that there is precedent for requiring a PPP in an NPDES Permit, citing the Tesoro Anacortes refinery as its only example. We do not understand why we are being compared to Tesoro. The Tesoro refinery is not a similarly situated facility in several key respects. First, Tesoro is a petroleum refinery, not a chemical manufacturing plant. It has a two-digit SIC Code of 29; Kalama has SIC Codes of 2865 and 2869. Tesoro produces significantly different materials and uses significantly different raw materials than Kalama. Second, Tesoro's process water flow is approximately eight times larger than Kalama's. Tesoro's process water flow during dry periods is 2 million gallons per day. During wet periods, its process water flow is 3 million gallons per day. Kalama's process water flow is designed for only 252,000 gallons per day and our total flow, including groundwater and stormwater, is 576,000 gallons per day. Third, it is our understanding that Tesoro does not have ISO 14001 certification, while Kalama does. In addition, many other industrial facility permits do not contain PPPs, and it is unclear to us why Kalama has been arbitrarily selected to have a PPP in our NPDES Permit.

In sum, Kalama has achieved a world-class wastewater treatment plant that regularly and effectively goes beyond meeting our Permit requirements. Kalama spends significant additional money on improving environmental quality at the facility. It is Kalama's belief that requiring a PPP as part of this Permit will detract facility resources from the implementation of its current PPP, it likely will preclude Kalama from implementing the most needed pollution prevention activities, and it will require Kalama and Ecology to adhere to a schedule that will be virtually impossible to meet. We believe that it also constitutes a rulemaking without due process and violates Washington law. Kalama strongly objects to the inclusion of the PPP and believes that it should be deleted from the draft Permit.

**Ecology:**

The Tesoro NPDES permit is being used as a model for other oil refineries in Washington State. Although the materials being treated are somewhat different, and the flows are different, the treatment method and other principles of operation of Noveon and Tesoro are similar. Ecology believes that the court decision that allowed the use of a PPP as part of AKART requirements for Tesoro is applicable in Noveon's case. This is based on consultation with the attorney general's office.

**Action taken:**

Submittal dates are changed (Table 24) to allow more time for preparation and implementation of the PPP.

**Table 24 PPP Summary of Permit Report Submittals**

| Submittal | Frequency | First Submittal Date | |
|---|---|---|---|
| | | Previous Draft | Final Permit |
| PPP, Phase I | 1/permit cycle | Within 180 days of permit effective date | Within one year of permit effective date |
| PPP, Phase I | 1/permit cycle | Within 360 days of permit effective date | Within two years of permit effective date |
| PPP Progress Report | Annually | Within two years of permit effective date | Within three years of permit effective date |

**Noveon:**

11. Ecology should allow the use of additional test methods to satisfy the detection limit of 1 ppb for bis (2-ethylhexyl) phthalate in receiving water.

Section S.8 of the draft Permit specifies a 1 ppb detection limit for bis (2-ethylhexyl) phthalate in the receiving water. Section S.2 specifies that the facility must use Method 611 for receiving water monitoring. As noted in Paragraph 7, above, Kalama objects to the inclusion of a receiving water monitoring requirement for bis (2-ethylhexyl) phthalate. If such a monitoring requirement is retained, however, Kalama does not believe that Method 611 should be the required test method. As an initial matter, as noted Paragraph 3, above, bis (2-ethylhexyl) phthalate is a common lab contaminant, so with such a low detection limit, there is a significant potential for false positive results. We are surprised that this method is required in the draft Permit, since it is not listed as one of the EPA-approved test methods for this parameter in 40 C.F.R. Part 136. In addition, neither Lauck's Laboratory nor Columbia Analytical Services, two of the EPA-accredited laboratories that we use, is able to run Method 611. However, Lauck's has informed us that it can achieve a 1 ppb detection limit using Method 625 (the test that is specified in 40 C.F.R. Part 136). Therefore, if the receiving water monitoring requirement is retained, Kalama requests that Ecology allow us to use Method 625.

**Ecology:**

The comment has been reviewed and acknowledged.

**Action taken:**

Noveon's request is granted. The permit is changed to allow Noveon the use of Method 625.

**Noveon:**

*12. The detection limit of 1 ppb for arsenic in receiving water is technologically infeasible using Method 206.2 and should be increased. Alternatively, Ecology should allow a different test method.*

Section S.8 of the draft Permit specifies a 1 ppb detection limit for arsenic in the receiving water. Section S.2 specifies that the facility must use Method 206.2. As noted in Paragraph 6, above, Kalama objects to the inclusion of a receiving water monitoring requirement for arsenic. If such a monitoring requirement is retained, however, Kalama does not believe that this detection limit is reasonably achievable for this parameter using this test method. Columbia Analytical Services is able to run Method 206.2 with a detection limit of 5 ppb. However, both Lauck's and Columbia are able to achieve a detection limit of 1 ppb using Method 200.8. Kalama therefore requests that Ecology increase the detection limit for arsenic in receiving water to 5 ppb by Method 206.2, or that Ecology allow the use of Method 200.8.

**Ecology:**

The comment has been reviewed and acknowledged.

**Action taken:**

Noveon's request is granted. . The permit is changed to allow Noveon the use of Method 200.8.

**Noveon:**

*13. The Acute Rapid Screening Testing requirement should be deleted or clarified.*

Section S.9.F requires that Kalama conduct 24-hour "acute rapid screening tests" "as soon as possible after any spill from Outfalls 001 or 002." This requirement also is referenced on page 22 of the draft Fact Sheet. Kalama commented previously that we object to the inclusion of an Acute Rapid Screening Testing provision, and we believe it should be deleted from the Permit. If the provision is retained, Kalama requests that Ecology clarify the language to correspond to the Fact Sheet, which specifies that rapid screening testing is required "whenever untreated spills are discharged from Outfalls 001 or 002…."

In addition, Kalama does not believe that Ecology adequately addressed its previous comment that laboratories may not be available to conduct rapid screening tests for acute toxicity on a weekend or a holiday. The lab that Kalama will now be using for our toxicity testing is in Newport, Oregon (they have relocated there from Kirkland, Washington). They are able to run the acute rapid screening tests with the organisms specified in the draft Permit. They have a stock of each test organism available at all times; however, prior to running a test, the organisms must be isolated for a minimum of 24 hours to ensure they are at the proper growth stage for the test. If Kalama had to run a rapid screening test, the following steps would happen: (1) Kalama would contact the lab to let them know that we will be sending a sample; (2) the lab would isolate the test species to prepare for the rapid screening test (minimum of 24 hours); (3) Kalama would send the sample to the lab (the lab must begin the test within 36 hours of the sample being taken); and (4) the lab would run the test, and send Kalama the results.

Given the sequence and time frame required to run a rapid screening test, we see two problems with the draft Permit provision. First, depending on what tests the lab is currently running, there may or may not be personnel at the lab over the weekend. For example, on a recent weekend, someone was working at the lab from 6:00 a.m. to 10:00 a.m. only. After 10:00 a.m., there was no staffing at the lab, and there would have been no way to contact the lab to prepare for a rapid screening test. Therefore, although Kalama could have taken a sample over the weekend, there would have been no guarantee that the test could have been commenced within the timeframe required by the test. Second, even if Kalama is able to contact the lab over the weekend, there is no guarantee that we will be able to ship the sample to the lab with sufficient time for them to begin the test within the timeframe required by the test. For example, UPS will drop off samples to the lab on Saturday, but the lab must be notified ahead of time to make sure someone is there to accept it. There is no FedEx or UPS delivery on Sunday.

Thus, Kalama requests that Ecology provide some additional guidance to address how the facility should comply with the acute rapid screening testing provision should a problem occur during a weekend or holiday.

**Ecology:**

The entire comment has been reviewed and acknowledged.

Noveon Kalama in their comment 13. described difficulties that were specific to one lab. Many other labs routinely work 7 days a week because most of the chronic WET tests are 7-day tests. Many labs constantly maintain brood boards in order to monitor culture health and provide for high testing volumes or emergencies. Because rain cannot be predicted precisely, labs routinely must toxicity test stormwater samples with little advance warning. An acute rapid screening test only needs 20 daphnids under 24 hours old. With little or no extra effort, any lab with a daphnid culture could have test organisms ready to begin a daphnid acute rapid screening test upon sample receipt.

There are four accredited labs capable of doing a daphnid acute rapid screening test within driving distance (1 to 3 hours) of the Noveon Kalama facility if a spill happens at an inconvenient time. Labs have voice mail and e-mail and so could easily be alerted to the need to test in response to a spill. Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*, describes a procedure in section II.H. that a lab can use to get approval for a test where something has inadvertently gone wrong. This procedure is often used when holding time exceedances occur. The lab may also need to get approval for sample temperature exceedances given the circumstances of the permit requirement. The procedure has been in place for several years and is now routine.

**Action taken:**

Ecology clarifies the language to correspond to the Fact Sheet, which specifies that rapid screening testing is required "whenever untreated spills are discharged from Outfalls 001 or 002…."

**Noveon:**

*14. Kalama should not be required to meet water quality criteria at an internal discharge point.*

Section S.11 provides that Kalama must submit a revised engineering report to analyze options and cost to treat bis (2-ethylhexyl) phthalate to meet 1.8 ppb at Outfall 002. The 1.8 ppb limit is based on water quality criteria. As noted in Paragraph 3, above, Kalama believes that the limit for bis (2-ethylhexyl) phthalate should be technology-based. However, to the extent that the Permit must specify a water quality criteria-based limitation, rather than a technology-based limitation, the limitation should reflect the concentration at Outfall 001, which is the actual point of discharge from the facility.

A water-quality based limit of 1.8 ppb at Outfall 002 is inappropriate because Outfall 002 does not discharge into the Columbia River. Rather, Outfall 002 combines with the non-contact cooling water at Outfall 001 before discharging into the river. Ecology cannot reasonably require the facility to comply with a water quality-based effluent limitation at an internal discharge point. Outfall 001 is the appropriate place for requiring compliance with water quality criteria. At the very least, the effluent from Outfall 002 is diluted by a factor of approximately 32.1, as shown on page 18 of the draft Fact Sheet, before it is discharged from Outfall 001. Thus, if Ecology does not reinstate the 1.340 pounds per day/0.495 pounds per day technology-based effluent limit as described in Paragraph 3, above, Kalama requests an effluent limit for bis (2-ethylhexyl) phthalate of 58 ppb (1.8 ppb x 32.1) at Outfall 002. Kalama is willing to accept a limit of 58 ppb even though it is more restrictive than the applicable technology-based limitation, and we believe that this more stringent limit is not required by the regulations. Because we know that our facility operates consistently at less than 58 ppb of bis (2-ethylhexyl) phthalate at Outfall 002, no engineering report should be required.

**Ecology:**

The comment has been reviewed and acknowledged. During reviewing the comment, it was noticed that the Columbia River was listed on the 303(d) list for bis (2-ethylhexyl) phthalate based on a single excursion.

According to the Water Quality Program policy for listing a single excursion beyond the criterion does not meet the policy for listing.

**Action taken:**

The requirement to submit an engineering report is removed from the permit.

**APPENDIX E**

# PERMIT RENEWAL CERTIFICATION

**Noveon Kalama**
**Permit No. WA0000281**
**Date Due: December 31, 2002**

General Condition G17 of your National Pollutant Discharge Elimination System (NPDES) permit requires you to reapply for permit renewal at least 180 days prior to the expiration date of the permit. This form is being provided to assist you in accomplishing this requirement.

The transmittal letter explains why your permit was not issued with the standard five-year term. The normal renewal requires all permittees to submit a full and complete permit renewal application and a new engineering report. This permit renewal form is intended to be used in place of a completely new application form and engineering report. The Department of Ecology (Ecology) believes this new process is the most appropriate and reasonable approach for the renewal of a permit that is issued for less than a five-year term.

Ecology requires that you complete, sign, and submit this permit renewal certification and Environmental Protection Agency (EPA) application Form 1 (enclosed) no later than the date specified above. If any production levels, waste treatment practices, or other changes have occurred since permit issuance, you should submit additional documentation in the form of a complete EPA From 2C renewal application, engineering report, or both.

By signing this permit renewal request, you will be certifying that the following three requirements have been met:

1. That your facility is in substantial compliance with all of the terms, conditions, requirements, and schedules of compliance of your permit;

2. That Ecology has up-to-date information on your facility production levels; waste treatment practices; nature, content, and frequencies of discharge; either pursuant to the submission of new forms and applications or pursuant to monitoring records and reports submitted to Ecology; and

3. That the discharge is consistent with applicable effluent standards and limitations, water quality standards, and other legally applicable requirements listed in Washington Administrative Code (WAC) 173-220-130.

**Certification**

> *"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."*

_____

Print Name and Official Title

_____

Signature

_____

Date

This permit renewal certification form and any attachments will be subject to Ecology's review. Final acceptance of the renewal package will be given only when Ecology has determined the submittal to be complete. Ecology will promptly notify you if any additional information is required prior to final acceptance of the renewal form.

Please sign and return this document to the following address:

Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

If you still have questions after reading this form, please call Jacey Anuszewski at (360) 407-6288.